

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Wireless Telecommunications Bureau)	WT Docket No. 13-135
Seeks Comment on the State of Mobile)	
Wireless Competition)	

REPLY COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

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EXECUTIVE SUMMARY

Competition is flourishing throughout today's wireless ecosystem. Mobile wireless providers are offering unprecedented options for service plans and cutting-edge mobile devices. Today, consumers can choose from a variety of nationwide and regional providers, as well as Mobile Virtual Network Operators ("MVNOs") and other new entrants. Providers are also continuously expanding and improving their infrastructure in an attempt to attract new subscribers with faster and more robust networks. The mobile wireless market is vibrantly dynamic, and competition in the marketplace has led wireless providers to seek out investment opportunities to expand their networks—resulting in enhanced speeds, accelerated national LTE deployment, and other consumer benefits.

In 2012 alone, U.S. wireless carriers spent more than \$30 billion dollars in capital expenditures. This represents nearly six times the global average wireless carrier investment per subscriber, and analysts predict double-digit increases in U.S. capital expenditures over the next two years. Infrastructure expenditures are not limited to the largest carriers, as regional carriers invest millions of dollars each year in their networks. Carriers have every incentive to build out the scarce and valuable spectrum they competed for at auction promptly.

Competition in the wireless market has ensured that consumers are receiving more value from their mobile services than ever before, and studies reveal record high satisfaction rates for wireless service. Prices for mobile service plans and devices continue to fall, even as consumers rely on their mobile services for an increasing number of functions, including bandwidth-intensive services like streaming audio and video. Despite the extraordinary value provided by wireless services, consumers continue to face excessive and discriminatory taxes, fees, and surcharges. These regressive taxes, which have increased since 2010 and which

disproportionately harm the low-income Americans who are most likely to live in a wireless-only household, also pose the danger of discouraging future investment in, and expansion of, wireless services.

The competitive mobile broadband ecosystem is creating opportunities for all Americans, including women and minorities. The U.S. wireless industry is a huge economic driver for all populations, and wireless service providers are competing to address the diverse needs of consumers. By far the most important action the Commission can take to ensure continued competition, growth and investment in the wireless industry is to make additional spectrum available for commercial mobile broadband services. As the President recently noted, “America’s future competitiveness and global technology leadership depend, in part, upon the availability of additional spectrum.” The Commission should heed the requests of commenters in this docket, as well as the directives from the White House, and proceed to make additional spectrum available for mobile wireless use as swiftly as possible.

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COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

I. INTRODUCTION

CTIA – The Wireless Association® (“CTIA”)¹ respectfully submits these reply comments in response to the Public Notice (“Public Notice”) released by the Wireless Telecommunications Bureau (“Bureau”) of the Federal Communications Commission (“FCC” or “Commission”) in the above-captioned proceeding.²

As the initial comments in this proceeding demonstrate, the United States wireless marketplace is vibrant, dynamic, and robustly competitive. Four nationwide mobile wireless providers operate high-speed networks that cover the vast majority of the U.S. population, with regional carriers and the entry and expansion of new service providers underscoring further the high level of competition in the wireless market. Consumers shopping for wireless service today have unprecedented options for devices and service plans, and carriers continue to invest heavily to expand their networks to meet consumer demand. As a result, and as discussed below,

¹ CTIA – The Wireless Association® is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the organization covers Commercial Mobile Radio Service (“CMRS”) providers and manufacturers, including cellular, Advanced Wireless Service, 700 MHz, broadband PCS, and ESMR, as well as providers and manufacturers of wireless data services and products. More information about CTIA is available on the Association’s website at <http://www.ctia.org/aboutCTIA/>.

² *Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition*, WT Docket No. 13-135, Public Notice, DA 13-1139 (May 17, 2013) (“*Public Notice*”).

consumer satisfaction with wireless providers is at a record high. Americans receive more value from wireless devices than ever before, while mobile voice and data prices continue their decade-long decline – despite the imposition of unfair and discriminatory taxes on mobile services. As demonstrated in these reply comments, the handful of initial comments that question the competitive offerings available to consumers fall flat and are belied by extensive evidence of the widespread availability of providers, devices, and service plans, as well as the world-leading investments in mobile wireless networks in the U.S.

Although the mobile wireless industry today is a success story that is driving growth and investment at home and around the world, commenters in this proceeding have unanimously urged the Commission to support continued competition and growth by providing additional spectrum for mobile broadband services.³ In addition, the President recently reiterated the Administration’s support for the “wireless broadband revolution” and strongly recommended that the Commission and other government entities dedicate themselves to freeing up additional spectrum for commercial wireless use.⁴ With additional spectrum resources to fuel continued competitive growth, the mobile wireless market will be able to “trigger the creation of innovative new businesses, provide cost-effective connections in rural areas, increase productivity, improve

³ See, e.g., Comments of Sprint Nextel Corporation, WT Docket No. 13-135, 27 (filed June 17, 2013) (“Sprint Comments”); Comments of T-Mobile US, Inc., WT Docket No. 13-135, 4-20 (filed June 17, 2013) (“T-Mobile Comments”); Comments of AT&T, Inc., WT Docket No. 13-135, 20 (filed June 17, 2013) (“AT&T Comments”); Comments of Verizon Wireless, WT Docket No. 13-135, 56-58 (filed June 17, 2013) (“Verizon Comments”); Comments of Mobile Future, WT Docket No. 13-135, 8-9 (filed June 17, 2013) (“Mobile Future Comments”); Comments of the Writers Guild of America, West, Inc., Docket No. 13-135, 5 (filed June 17, 2013) (“WGAW Comments”); Comments of Competitive Carriers Association, WT Docket No. 13-135, 10-14 (filed June 17, 2013) (“CCA Comments”); and Comments of Rural Telecommunications Group, Inc., Docket No. 13-135, 3 (filed June 17, 2013) (“RTG Comments”).

⁴ See “Unleashing the Wireless Broadband Revolution,” Presidential Memorandum (June 28, 2013), available at <http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution> (last accessed July 10, 2013) (“*Unleashing the Wireless Broadband Revolution*”).

public safety, and allow for the development of mobile telemedicine, telework, distance learning, and other new applications that will transform Americans' lives.”⁵

II. COMPETITION IS FLOURISHING THROUGHOUT TODAY’S WIRELESS ECOSYSTEM

A. The record demonstrates that consumers have a multitude of choices in the wireless marketplace.

The wide variety of choices available in the mobile wireless marketplace today is one of the most visible ways that consumers continue to benefit from intense competition in the mobile ecosystem. As the Commission recently acknowledged, nearly 93 percent of the U.S. population has a choice of four or more wireless providers, more than 97 percent of consumers can choose from at least three providers, and almost 98 percent of all Americans have access to at least two mobile wireless broadband providers.⁶ Competition within the industry has also provided additional investment opportunities to drive stronger and more disruptive competitors to benefit consumers, and carriers continue to introduce new plans and services to attract and retain consumers. The impact of MNVOs and regional providers also underscores the high level of competition in the wireless market. For example, analysts predict that over the next five years, the MVNO market will expand faster than the mobile wireless market worldwide.⁷

⁵ *Id.*

⁶ Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, *Sixteenth Report*, 28 FCC Rcd 3700, 3705-6 ¶ 2 (2013) (“*Sixteenth Report*”); *see also* Verizon Comments at 68, *citing generally* FCC CMRS Reports 2000-2008 (establishing trend that providers during this period continued to cover more and more of the U.S. population); AT&T Comments at 4-5 (“Most Americans, even in rural areas, have many competitive choices.”); Sprint Comments at 2 (noting that more than 99 percent of the U.S. population can choose between at least two mobile providers); Reply Comments of NTCA—The Rural Broadband Association, WT Docket No. 13-135, 3 (filed July 1, 2013) (“NTCA Reply Comments”) (observing that small providers are facing increased competition from large carriers).

⁷ *See* Berge Ayvazian, “Market Opportunities for B2B Fourth-Generation MVNOs,” Sprint Whitepaper (Oct. 2012), 2, *available at* <http://wholesale.sprint.com/docs/default-library/whitepaper---market-opportunities-for-b2b-fourth-generation-mvnos.pdf?sfvrsn=10> (last accessed July 10, 2013) (stating that

Consumers also have access to a wide variety of handsets available across carriers, and this expanding selection is increasingly driving decisions about mobile wireless services. In fact, studies have shown that today many consumers select the phone they want first, and only then choose a carrier.⁸

1. Mobile broadband providers compete fiercely to provide service to all American consumers.

Each of the four largest facilities-based wireless carriers operates a network that covers the vast majority of the U.S. population,⁹ and they make their networks available to smaller providers to reach nearly the entire U.S. For example, the largest prepaid carrier, TracFone Wireless (“TracFone”), has agreements with all four of the major carriers that enable it to offer coverage encompassing 99 percent of the U.S. population,¹⁰ and ended 2012 with a subscriber base of 22.4 million.¹¹ Another MVNO, FreedomPop, began selling a new Wi-Fi hotspot modem in April 2013 that connects to Sprint’s network, and to any Clearwire tower when

“[i]n both North America and Western Europe, MVNOs accounted for 12 percent of mobile subscribers by year end 2010,” and predicting that this would grow to 16 percent by 2016).

⁸ See Verizon Comments at 4, 43-44, citing “Wireless Shopper Study,” Google and Compete (Apr. 2013), available at http://ssl.gstatic.com/think/docs/how-do-people-shop-for-mobile-phones-research_research-studies.pdf (last accessed July 10, 2013).

⁹ See Sprint Coverage Map, <http://coverage.sprint.com/IMPACT.jsp?> (last accessed July 10, 2013); T-Mobile Coverage Map, <http://www.t-mobile.com/coverage/pcc.aspx/> (last accessed July 10, 2013); Verizon Coverage Map, <http://www.verizonwireless.com/b2c/support/coverage-locator> (last accessed July 10, 2013); and AT&T Coverage Map, http://www.att.com/maps/wireless-coverage.html#fbid=_7V-IDWqCY3 (last accessed July 10, 2013).

¹⁰ See TracFone, http://www.tracfone.com/cellular_coverage.jsp (last accessed July 10, 2013); see also Kevin Fitchard, “Who Says MVNOs Have to Be Small? TracFone Now Has 22.4 Million Subscribers,” GigaOm (Feb. 13, 2013), available at <http://gigaom.com/2013/02/13/who-says-mvnos-have-to-be-small-tracfone-now-has-22-4m-subscribers/> (last accessed July 10, 2013) (“Who Says MVNOs Have to Be Small?”).

¹¹ Phil Goldstein, “TracFone Adds 753,000 Subs in Q4 Amid Lifeline Changes,” FierceWireless (Feb. 13, 2013), available at <http://www.fiercewireless.com/story/tracfone-adds-753000-subs-q4-amid-lifeline-changes/2013-02-13> (last accessed July 9, 2013).

available, giving consumers nationwide coverage.¹² In addition, Page Plus Cellular provides national coverage on Verizon's network,¹³ H2O Wireless takes advantage of AT&T's national network,¹⁴ and Ultra Mobile offers nationwide coverage on T-Mobile's footprint.¹⁵

All four nationwide wireless carriers directly compete with each other and other, regional operators, across national, regional, and local markets. They maintain brand identities that are advertised in print, radio, television, Internet, and other media platforms, as do other carriers.¹⁶ In fact, a recent report shows that all four national providers are among the top advertisers in the country in terms of media spending.¹⁷ The top two brands in terms of advertising dollars spent in the U.S. were AT&T and Verizon, with T-Mobile and Sprint ranking among the top 14 brands in terms of media spending.¹⁸ In addition, each of the largest providers has a YouTube channel where consumers can see the latest advertising campaigns and compare offerings to other carriers.¹⁹ As a result of this direct competition, consumers can comparison shop for devices and service plans among carriers. Many regional carriers also heighten brand awareness by

¹² See Kevin Fitchard, "FreedomPop Goes National with a Sprint-Powered Mobile Hotspot," GigaOm (Apr. 24, 2013), *available at* <http://gigaom.com/2013/04/24/freedompop-goes-national-with-a-sprint-powered-mobile-hotspot/> (last accessed July 10, 2013).

¹³ See Page Plus Cellular coverage map, <https://www.pagepluscellular.com/why-page-plus/coverage/> (last accessed July 9, 2013).

¹⁴ See H2O Wireless coverage map, <http://www.h2owirelessnow.com/pageControl.php?page=coverage> (last accessed July 9, 2013).

¹⁵ See Ultra Mobile, <http://ultra.me/coverage> (last accessed July 9, 2013).

¹⁶ See, e.g., Sprint Comments at 5-6; T-Mobile Comments at 1.

¹⁷ See APPENDIX A and "Infographic: Meet America's 25 Biggest Advertisers," Advertising Age (July 8, 2013), *available at* <http://adage.com/article/news/meet-america-s-25-biggest-advertisers/242969/> (last accessed July 8, 2013) ("Meet America's 25 Biggest Advertisers").

¹⁸ See APPENDIX A.

¹⁹ See the YouTube channels for AT&T, <http://www.youtube.com/user/ShareATT>; Sprint, <http://www.youtube.com/user/sprintnow>; Verizon, <http://www.youtube.com/user/VerizonWireless>; and T-Mobile, <http://www.youtube.com/user/TMobile> (last accessed June 24, 2013).

maintaining an Internet presence through Facebook or Twitter,²⁰ while some MVNOs that offer national coverage have entered into retail agreements with national chains such as Walmart, Target, Radio Shack, and others.²¹

2. *Ongoing improvements in networks and infrastructure increase value to all consumers.*

The wireless industry is fueled by steady, continuing investment in networks and infrastructure, and the four nationwide facilities-based providers and their regional rivals are deploying advanced technologies to improve and expand their networks on a nearly weekly basis. In the *Sixteenth Report*, the Commission found that these mobile wireless providers had continued to upgrade and expand their networks with advanced 3G and 4G technologies that allowed them to offer faster mobile broadband connection speeds.²² This trend continues, and forty providers in the U.S. are offering, plan to offer, or conducting trials of 4G LTE services

²⁰ See e.g., Bluegrass Cellular's Facebook page, <https://www.facebook.com/bluegrasscellular> (last accessed June 26, 2013); U.S. Cellular's Facebook page, <https://www.facebook.com/USCellular> (last accessed June 26, 2013); FreedomPop's Twitter feed, <https://twitter.com/FreedomPop4G> (last accessed June 26, 2013).

²¹ Walmart sells mobile wireless services from all four national brands, as well as pre-paid service from Net10, Boost Mobile and Virgin Mobile, Leap Wireless, and Walmart's own "Family Mobile" MVNO. See Phil Goldstein, "Walmart Exec: TracFone's Straight Talk Is 'One of the Best-Kept Secrets' in Wireless," *Fierce Wireless* (May 23, 2013), available at <http://www.fiercewireless.com/story/walmart-exec-tracphones-straight-talk-one-best-kept-secrets-wireless/2013-05-23> (last accessed June 26, 2013); see also Karl Bode, "Radio Shack, Cricket Launch New MVNO," *DSL Reports* (Sept. 5, 2012), available at <http://www.dslreports.com/shownews/Radio-Shack-Cricket-Launch-New-MVNO-121037> (last accessed June 26, 2013). Target has partnered with providers including Net10 Wireless, Boost Mobile, PayLo, and TracFone, see Target, http://www.target.com/c/prepaid-cell-phones-electronics/-/N-5xte4#?lnk=lnav_shop_categories_4 (last accessed July 9, 2013), while Best Buy allows consumers to choose from more than fifteen prepaid carriers, as well as other providers. See Best Buy, http://www.bestbuy.com/site/olstemplatemapper.jsp?id=abcat0801002&type=category&qp=cabcat0800000%23%23-1%23%23-1~~cabcat0801002%23%23-1%23%23-1~~q70726f63657373696e6774696d653a3e313930302d30312d3031~~f1227%7C%7C*&sp=-bestsellingsort+skuid (last accessed July 9, 2013).

²² See *Sixteenth Report*, 28 FCC Rcd at 3706-07 ¶ 2.

covering nearly the entire country.²³ Since CTIA filed its initial comments in this proceeding, AT&T has announced the launch of LTE service in dozens of additional markets across the U.S., including thirty-five new markets on July 2, 2013 alone.²⁴ AT&T now covers more than 225 million people with its 4G LTE network (which is available in 328 markets) and more than 292 million people with its 4G networks, and expects to reach 270 million people by the end of 2013, and 300 million by year-end 2014.²⁵ Sprint launched 4G LTE coverage in twenty-two new markets in June 2013, bringing its network to a total of 110 markets nationwide.²⁶ By the end of the year, it plans to have 200 million people covered by 4G LTE technology.²⁷ T-Mobile today provides 4G service to 220 million people²⁸ and anticipates reaching 200 million people with LTE coverage by the end of 2013²⁹ and 300 million people by the end of 2014.³⁰ In June 2013, it reported being ahead of schedule in moving subscribers from legacy CDMA service onto LTE

²³ See Mobile Future Comments at 7 (citing Mike Dano, “LTE Coverage Targets and Subscriber Numbers,” FierceBroadband Wireless (Oct. 24, 2012), *available at* <http://www.fiercebroadbandwireless.com/special-reports/lte-coverage-targets-and-subscriber-numbers>); *see also* AT&T Comments at 9; Sprint Comments at 5; T-Mobile Comments at 2; Verizon Comments at 19.

²⁴ See “Network News,” AT&T (July 2, 2013), *available at* <http://www.att.com/gen/press-room?pid=2943> (last accessed July 9, 2013).

²⁵ See *id.*; *see also* Kevin Fitchard, “AT&T Cranks Up LTE in 35 New Markets, Accelerating Its Summer Rollout Plans,” GigaOm (July 2, 2013), *available at* <http://gigaom.com/2013/07/02/att-cranks-up-lte-in-36-new-markets-accelerating-its-summer-rollout-plans/> (last accessed July 8, 2013); AT&T Network News, “AT&T 4G LTE Now Covers More than 225 Million People” (July 17, 2013) (last accessed July 22, 2013); “AT&T: The Nation’s Fastest 4G LTE Network,” AT&T Infographic (July 2, 2013), *available at* http://www.att.com/Common/about_us/pdf/4g_evolution_infographic.pdf (last accessed July 22, 2013).

²⁶ See Sprint Comments at 5; *see also* “Stay Connected This Summer: Sprint 4G LTE Expands into 22 New Cities,” Sprint Newsroom (June 17, 2013), *available at* <http://newsroom.sprint.com/news-releases/stay-connected-this-summer-sprint-4g-lte-expands-into-22-new-cities.htm> (last accessed July 9, 2013) (“Stay Connected This Summer: Sprint 4G LTE Expands into 22 New Cities”).

²⁷ See “Stay Connected This Summer: Sprint 4G LTE Expands into 22 New Cities.”

²⁸ See T-Mobile Comments at 2.

²⁹ See T-Mobile Comments at 2; AT&T Comments at 10.

³⁰ See “Network News,” AT&T (July 2, 2013), *available at* <http://www.att.com/gen/press-room?pid=2943> (last accessed July 9, 2013).

networks.³¹ Verizon's LTE network now covers more than 90 percent of the U.S. population, or more than 287 million people,³² and it has already successfully migrated more than 50 percent of its data traffic to LTE.³³ Today, the U.S. accounts for half of the world's LTE subscribers,³⁴ and by 2016, LTE will represent the majority of wireless subscriptions in the U.S.³⁵

As previously noted, the four largest carriers are not the only providers deploying advanced 4G networks. Increasingly, regional and prepaid providers are offering 4G speeds.³⁶ For example, U.S. Cellular already provides 4G coverage to 61 percent of its customer base, and it is actively expanding its 4G LTE coverage to include 87 percent of customers by the end of 2013.³⁷ Other regional providers such as Bluegrass Cellular, which announced the launch of its second LTE network in April 2013,³⁸ and Appalachian Wireless are expanding their networks to

³¹ See Phil Goldstein, "T-Mobile: We're 'Ahead of Schedule' on CDMA-to-LTE MetroPCS Migration," *Fierce Wireless* (June 17, 2013), *available at* <http://www.fiercewireless.com/story/t-mobile-were-ahead-schedule-cdma-lte-metropcs-migration/2013-06-17> (last accessed July 9, 2013).

³² See AT&T Comments at 9; Verizon Wireless 4G LTE, <http://www.verizonwireless.com/wcms/consumer/4g-lte.html> (last accessed July 9, 2013).

³³ See AT&T Comments at 9.

³⁴ See John Walls, "U.S. Leading Smartphone Revolution," *WP BrandConnect* (Apr. 11, 2013), *available at* <http://www.washingtonpost.com/sf/brand-connect/wp/2013/04/11/u-s-leading-smartphone-revolution/> (last accessed June 24, 2013).

³⁵ See Mikael Ricknas, "LTE and Smartphones Drive Mobile Traffic, Says Ericsson," *Citrix* (June 3, 2013), *available at* http://www.cio.com/article/734337/LTE_and_Smartphones_Drive_Mobile_Traffic_Says_Ericsson (last accessed July 22, 2013).

³⁶ See "4G Americas Global Deployment Status Update," *Global Americas 5* (May 31, 2013), *available at* <http://4gamericas.org/UserFiles/file/Global%20Status%20Updates/Global%20Deployments%20May%2031%2C%202013.pdf> (last accessed June 24, 2013).

³⁷ See U.S. Cellular, <http://www.uscellular.com/press-room/resource-library.html> (last accessed July 22, 2013); *see also* Dan Graziano, "U.S. Cellular Plans to Cover 87% of Customers with 4G LTE by the End of 2013," *BGR.com* (Feb. 15, 2013), *available at* <http://bgr.com/2013/02/15/u-s-cellular-4g-lte-coverage-328358/> (last accessed June 24, 2013).

³⁸ "Bluegrass Cellular Launches Second 4G LTE Network, GetSetGo Wireless Internet Service," *PR Newswire* (Apr. 18, 2013), *available at* <http://www.prnewswire.com/news-releases/bluegrass-cellular-launches-second-4g-lte-network-getsetgo-wireless-internet-service-203597271.html> (last accessed June 26, 2013).

provide LTE to rural consumers.³⁹ Cellcom launched LTE in seven areas of Central and Northeast Wisconsin in April 2012, and has continued to expand their LTE coverage and offerings.⁴⁰ As noted in CTIA's Comments, these and a host of other regional operators are deploying 4G service in rural markets that are home to millions of Americans.⁴¹ In 2012, Ting, which runs on Sprint's network, became the first 4G LTE MVNO.⁴² FreedomPop offers packages of 4G wireless data, text, and voice service over Clearwire's 4G WiMax network, and before the end of the year the MVNO plans to expand its service to include Sprint's 4G LTE network.⁴³ Solavei offers 4G LTE on T-Mobile's network,⁴⁴ while the provider Ready SIM also

³⁹ "Appalachian Wireless Unveils LTE Service," TeleGeography (June 12, 2013), *available at* <http://www.telegeography.com/products/commsupdate/articles/2013/06/12/appalachian-wireless-unveils-lte-service/> (last accessed June 26, 2013).

⁴⁰ See "Cellcom Launched 4G LTE Network," April 30, 2012, *available at* <http://www.wsaw.com/home/headlines/139999063.html> (last accessed July 11, 2013) (including Green Bay, Sturgeon Bay, Appleton, Oshkosh, Wausau, and parts of Oconto and Marinette Counties). See also "Cellcom expands 4G LTE coverage in Brown County," PackersNews.com (Oct. 23, 2012), *available at* <http://www.packersnews.com/article/20121024/GPG03/310240229/Cellcom-expands-4G-LTE-coverage-Brown-County> (cached, last accessed July 11, 2013) (noting LTE sites activated in Benderville, New Franken and Pittsfield); "Cellcom's 4G LTE Coverage Expands to Wittenberg, Stratford," Wsaw.com (Nov. 13, 2012), *available at* <http://www.wsaw.com/home/headlines/Cellcoms-4G-LTE-Coverage-Expands-to-Wittenberg-Stratford-179122351.html> (last accessed July 11, 2013) (expansion includes Jaegler, Wittenberg, Halder, Spencer and Stratford); Cellcom Press Release, "Cellcom's 4G LTE coverage expands in Upper Michigan," Nsight News (Dec. 20, 2012), *available at* <http://www.nightnews.com/nsight-Cellcom-news/nsight-Cellcom-press-releases/296-Cellcoms-4g-lte-coverage-expands-in-upper-michigan-> (last accessed July 11, 2012) (sites in Escanaba, Bark River, Powers and Menominee being turned-up).

⁴¹ See Comments of CTIA – The Wireless Association®, WT Docket No. 13-135 (filed June 17, 2013) at 10-11 (including Appalachian Wireless and Bluegrass Cellular (Kentucky); Cellcom (Wisconsin and Michigan); Cross Wireless (d/b/a Sprocket Wireless) and Pioneer Cellular (Oklahoma); Carolina West Wireless (North Carolina); Immix Wireless (Pennsylvania); MidRiver Communications (Montana); Nex-Tech Wireless (Kansas); SRT Communications (North Dakota); Union Wireless (Wyoming, Northwestern Colorado and parts of Utah); Chat Mobility (Iowa); and Viaero Wireless (Colorado and Western Nebraska)) ("CTIA Comments").

⁴² See Kevin Fitchard, "Ting Becomes the First LTE MVNO," GigaOm (Aug. 30, 2012), *available at* <http://gigaom.com/2012/08/30/ting-becomes-the-first-lte-mvno-next-step-the-iphone/> (last accessed June 24, 2013); see also Ting, <https://ting.com/> (last accessed June 24, 2013).

⁴³ See Adam Popescu, "FreedomPop Announces Free Mobile Service," Mashable (June 5, 2013), *available at* <http://mashable.com/2012/06/05/freedompop-free/> (last accessed June 24, 2013); see also Cody Lee, "Free Wireless Internet Provider Freedom Pop to Go LTE," iDownloadBlog (July 11, 2012),

uses the T-Mobile platform to offer pre-programmed SIM cards that include a 4G LTE wireless plan.⁴⁵ Other MVNOs that offer 4G service include Chit Chat Mobile and PrepaYd Wireless on Sprint's network; H2O Wireless, Air Voice Wireless, Red Pocket Wireless, Good2Go Mobile, and Pure Talk USA on AT&T's network; and Simple Mobile, Spot Mobile, Telcel America, Ultra Mobile, and Ptel Mobile on T-Mobile's platform.⁴⁶

3. *Carriers offer consumers a wide selection of cutting-edge wireless devices.*

Mobile wireless service providers in the U.S. offer their subscribers the most innovative, best-selling devices from leading device manufacturers and OS providers. Both national and regional operators offer such advanced devices as the iPhone 5, BlackBerry Z10, Samsung Galaxy S4, carry or plan to carry the HTC Windows Phone 8 and the forthcoming Motorola Moto X phone,⁴⁷ or support a host of other devices, including a wide variety of smartphones and tablets.

available at <http://www.idownloadblog.com/2012/07/11/freedompop-goes-lte/> (last accessed June 24, 2013); Verizon Comments at 15.

⁴⁴ See David Beren, "Two T-Mobile Mobile Virtual Network Operators Confirm LTE Support," TmoNews (Feb. 9, 2013), available at <http://www.tmonews.com/2013/02/two-tmobile-mobile-virtual-network-operators-confirm-lte-network-support/> (last accessed June 24, 2013).

⁴⁵ See ReadySim, <http://www.readysim.com/> (last accessed June 24, 2013).

⁴⁶ See Chit Chat Mobile, <http://chitchatmobile.com/>; PrepaYd Wireless, <http://www.prepaydwireless.com/>; H2O Wireless, <https://www.h2owirelessnow.com/pageControl.php?page=index>; Air Voice Wireless, <https://www.airvoicewireless.com/>; Red Pocket Wireless, <http://goredpocket.com/>; Good2Go Wireless, <http://us.good2gomobile.com/>; Pure Talk USA, <http://www.puretalkusa.com/>; Simple Mobile, http://www.simplemobile.com/wps/portal/home!/ut/p/b1/04_Sj9Q1NzE2NDcxsjDRj9CPykssy0xPLMnMz0vMAfGjzOJdDLx8jQMdPYyCPMxNDTwDPJyD3c39DPzdjPTD9aPASgxwAEcDfT-P_NxU_dwoLwsAFok-kA!!/dl4/d5/L2dBISvZ0FBIS9nQSEh/; Spot Mobile, <http://www.spotmobile.com/>; Telcel America, <http://www.telcelamerica.com/>; Ultra Mobile, <http://ultra.me/>; Ptel Wireless, <http://www.platinumtel.com/> (last accessed June 24, 2013).

⁴⁷ See John Callaham, "Motorola's Moto X To Be Sold by Several U.S. Carriers," Neowin.net (July 11, 2013), available at <http://www.neowin.net/news/motorola039s-moto-x-to-be-sold-by-several-us-carriers-will-have-less-bloatware> (last accessed July 25, 2013).

Carriers have responded to consumer demands for popular devices by continuing to expand their offerings. Verizon offers nearly ninety devices,⁴⁸ while Sprint advertises more than fifty smartphones on its webpage, and also offers many more feature phones.⁴⁹ AT&T currently has nearly thirty smartphones available that are priced at less than \$50.00, and many more above this price point.⁵⁰ Providers are also competing to get new devices into the hands of consumers even faster. T-Mobile offers consumers the option of paying the unsubsidized cost of the device up front, or putting a deposit down and paying the full price, without financing, over the course of two years,⁵¹ and recently announced a plan that would allow a consumer, in exchange for a down payment, to upgrade to a new smartphone with an additional down payment up to twice a year.⁵² AT&T has also introduced a similar plan that allows consumers, in exchange for signing up for a monthly installment plan, to upgrade to a new device after twelve months of service.⁵³ Verizon's Edge program, which will go into effect in August 2013, allows consumers with no contract to make monthly installment payments based on the retail price of a phone, and then

⁴⁸ See Verizon Comments at 49.

⁴⁹ See Sprint—Devices, http://support.sprint.com/support/pages/deviceLanding.jsp?pid=1&_requestid=606274 (last accessed June 24, 2013).

⁵⁰ See AT&T—Cell Phones and Mobile Devices, <http://www.att.com/shop/wireless/devices/cellphones.html> (last accessed June 24, 2013).

⁵¹ See Parmy Olson, “T-Mobile Tears Up Service Contracts and Adds the iPhone,” *Forbes* (Mar. 26, 2013), available at <http://www.forbes.com/sites/parmyolson/2013/03/26/t-mobile-tears-up-service-contracts-and-adds-the-iphone/> (last accessed June 24, 2013) (“T-Mobile Tears Up Service Contracts”).

⁵² See Brian X. Chen, “Two New Plans to Upgrade Smartphones After a Year,” *The New York Times* (July 16, 2013), available at http://www.nytimes.com/2013/07/16/technology/personaltech/2-new-plans-to-upgrade-smartphones-after-a-year.html?hpw&_r=0 (last accessed July 25, 2013) (“Two New Plans to Upgrade Smartphones”); see also T-Mobile Jump, http://explore.t-mobile.com/phone-upgrade?cm_mmc_o=VzbpjmwzygtCjC-czywEwllCjCVzbpjmwzygtCjCVzbpjmwzygt&gclid=CMXVjLmZy7gCFepZ7AodL1EA0Q (last accessed July 25, 2013).

⁵³ See Chen, “Two New Plans to Upgrade Smartphones;” see also AT&T Next, http://www.att.com/shop/wireless/next.html?WT.srch=1&wtPaidSearchTerm=at%26t+next#fbid=_7V-IDWqCY3 (last accessed July 25, 2013).

swap that device for a new one after six months, as long as the consumer has paid off fifty percent of the original device's price.⁵⁴ Regional operators also offer an increasing number of smartphones and tablets to their customers.⁵⁵

Consumers that do not want to obtain their device from a wireless provider can purchase phones in retail stores, on the Internet, or directly from the manufacturer.⁵⁶ While the largest four carriers were among the top spenders of advertising dollars in the U.S. market in 2012, three device manufacturers also ranked among the top twenty-five firms for brand spending, highlighting the increasing competition that carriers have in the market for wireless devices.⁵⁷ Smartphone prices have also steadily decreased. While in 2011 the cost of the average smartphone was \$443, by 2012 this had dropped to \$407, and by 2013 to \$372; the average smartphone is anticipated to only cost \$309 by 2017.⁵⁸

⁵⁴ See Verizon Edge, <http://news.verizonwireless.com/news/2013/07/edge-device-payment-early-upgrade.html> (last accessed July 25, 2013).

⁵⁵ See e.g., Appalachian Wireless Phone Selection, *available at* <http://www.appalachianwireless.com/?page=phones&sort=6> (last accessed July 11, 2013); Cellcom Devices, *available at* <http://www.Cellcom.com/deviceCategory.html?categoryid=1&navtype=personal> (last accessed July 11, 2013); Cellular One of East Central Illinois Phones & Accessories, *available at* <http://www.cellular1.net/phones.asp?category=Smart Phones> (last accessed July 11, 2013); Cricket Shop Phones, *available at*, <http://www.mycricket.com/cell-phones/shop/4g-lte> (last accessed July 11, 2013); nTelos Wireless Phones & Devices, *available at* <http://www.ntelos.com/smartphones> (last accessed July 11, 2013); Union Wireless Phones, *available at* <http://www.unionwireless.com/Phones.aspx> (last accessed July 11, 2013); U.S. Cellular Phones & More, *available at* http://www.uscellular.com/uscellular/cell-phones/showPhones.jsp?type=phones&_requestid=146919?utm_source=Google%20Site%20Links&utm_medium=cpc&utm_term=Compare%20Our%20Phones&utm_campaign=Brand%20Campaign%20Site%20Links-Desktop (last accessed July 11, 2013).

⁵⁶ See Verizon Comments at 49-50.

⁵⁷ See "Meet America's 25 Biggest Advertisers," Advertising Age.

⁵⁸ See Nick Bilton, "Smartphones to Pass Feature Phones, Report Says," NY Times Bits Blog (June 4, 2013), *available at* <http://bits.blogs.nytimes.com/2013/06/04/smartphones-to-pass-feature-phones-report-says/> (last accessed June 24, 2013).

The national carriers also face competition from regional providers and MVNOs in the critical area of cutting-edge smartphones and tablets.⁵⁹ Using the iPhone as just one example, in the first quarter of 2013, this device accounted for half of total smartphone sales at the four major carriers.⁶⁰ But this market-shifting handset has also been enthusiastically embraced by providers with smaller subscriber bases. For example, C Spire Wireless became the first regional carrier to offer the iPhone in November 2011, with unlimited data, SMS, and 500 minutes for \$50 per month.⁶¹ Since then, many regional providers as well as MVNOs have added the iPhone to their offerings. In June 2012, Cricket Wireless began offering two iPhone handsets with pre-paid plans.⁶² In April 2012, regional carriers nTelos (Virginia), Alaska Communications (Alaska), GCI (Alaska), Matanuska Telephone Association (Alaska), Appalachian Wireless (Kentucky), and Cellcom (Wisconsin) began offering various versions of the iPhone.⁶³ In September 2012,

⁵⁹ See e.g., Appalachian Wireless Phone Selection, <http://www.appalachianwireless.com/?page=phones&sort=6> (last accessed July 11, 2013); Cellcom Devices, <http://www.Cellcom.com/deviceCategory.html?categoryid=1&navtype=personal> (last accessed July 11, 2013); Cellular One of East Central Illinois Phones & Accessories, <http://www.cellular1.net/phones.asp?category=Smart Phones> (last accessed July 11, 2013); Cricket Shop Phones, , <http://www.mycricket.com/cell-phones/shop/4g-lte> (last accessed July 11, 2013); nTelos Wireless Phones & Devices, <http://www.ntelos.com/smartphones> (last accessed July 11, 2013); Union Wireless Phones, <http://www.unionwireless.com/Phones.aspx> (last accessed July 11, 2013); U.S. Cellular Phones & More, http://www.uscellular.com/uscellular/cell-phones/showPhones.jsp?type=phones&_requestid=146919?utm_source=Google%20Site%20Links&utm_medium=cpc&utm_term=Compare%20Our%20Phones&utm_campaign=Brand%20Campaign%20Site%20Links-Desktop (last accessed July 11, 2013).

⁶⁰ See “U.S. Mobile Market Update Q1 2013,” Chetan Sharma Consulting, *available at* <http://www.chetan.sharma.com/usmarketupdateq12013.htm> (last accessed June 24, 2013) (“*U.S. Mobile Market Update*”).

⁶¹ See Eric Slivka, “C Spire Launching iPhone on November 11, ‘Unlimited’ Non-Streaming Data and 500 Minutes for \$50,” MacRumors (Nov. 1, 2011), *available at* <http://www.macrumors.com/2011/11/01/c-spire-launching-iphone-on-november-11th-unlimited-non-streaming-data-and-500-minutes-for-50/> (last accessed June 24, 2013).

⁶² See Kevin C. Tofel, “Apple’s iPhone Goes Pre-Paid with Cricket’s \$55 Plan,” GigaOm (May 31, 2012), *available at* <http://gigaom.com/2012/05/31/apples-iphone-goes-pre-paid-with-cricket-55-plan/> (last accessed June 24, 2013).

⁶³ See Kevin Fitchard, “Why nTelos Gets the iPhone but T-Mobile Must Wait,” GigaOm (Apr. 4, 2012), *available at* <http://gigaom.com/2012/04/04/why-ntelos-gets-the-iphone-but-t-mobile-must-wait/> (last

multiple regional providers including Appalachian Wireless, Cellcom, GCI, and Leap, began offering the iPhone 5 within days of its availability through nationwide providers,⁶⁴ and the roll-out of the iPhone 5 and other 4G-enabled devices by regional operators has continued to make these advanced devices increasingly available with more than 35 providers currently offering the device.⁶⁵ Aio Wireless is one of the most recently launched brands, launching a new service in

accessed June 24, 2013); *see also* Eric Slivka, “Broad Rollout of iPhone to Small U.S. Carriers Coming on April 20,” MacRumors (Apr. 4, 2012), *available at* <http://www.macrumors.com/2012/04/04/broad-rollout-of-cdma-iphone-to-small-u-s-carriers-coming-on-april-20/> (last accessed June 24, 2013).

⁶⁴ *See* Nsight News Release: “Cellcom to Offer iPhone 5 on September 28,” Nsight News (Sept. 27, 2012), *available at* <http://www.naightnews.com/nsight-Cellcom-news/nsight-Cellcom-press-releases/249-Cellcom-to-offer-iphone-5-on-september-28> (last accessed July 11, 2013); “Appalachian Wireless to sell iPhone 5,” WYMT TV (Sept. 13, 2012), *available at* <http://www.wkyt.com/wymt/home/headlines/Appalachian-Wireless-to-sell-iPhone-5-169688666.html> (last accessed July 11, 2013); *see also* Golden State Press Release: “Golden State Cellular to offer iPhone 5 in the United States on September 28,” (Sept. 27, 2012), *available at* <http://www.goldenstatecellular.com/golden-state-cellular-news/iphone-5-now-available/> (last accessed July 11, 2013); Nex-Tech Wireless Press Release, “Nex-Tech Wireless to Offer iPhone 5 on September 28,” (Sept. 27, 2012), *available at* <http://www.nex-techwireless.com/news.aspx?post=254> (last accessed July 11, 2013).

⁶⁵ *See e.g.*, U.S. Cellular Press Release: “U.S. Cellular Launches the 4G LTE-Enabled Samsung Galaxy Note™ 10.1,” (Feb. 27, 2013), *available at* <http://www.uscellular.com/about/press-room/2013/USCellular-Launches-the-4G-LTE-Enabled-Samsung-Galaxy-Note-10.1.html> (last accessed July 11, 2013); Christian Zibreg, “\$149 iPhone 5 now available from Strata Networks,” (March 15, 2013), *available at* <http://www.idownloadblog.com/2013/03/15/iphone-5-strata/> (last accessed July 11, 2013) (noting availability in LTE markets in Colorado, Idaho, and Utah). *See also* U.S. Cellular Press Release: U.S. Cellular Launches 4G LTE Kyocera Hydro XTRM Smartphone (May 21, 2013), <http://www.marketwire.com/press-release/us-cellular-launches-4g-lte-kyocera-hydro-xtrm-smartphone-usm-usm-1793172.htm> *available at* (last accessed July 11, 2013); “Cincinnati Bell introduces HTC One S on its network,” Telecom Lead (June 18, 2013), *available at* <http://www.telecomlead.com/telecom-services/cincinnati-bell-introduces-htc-one-s-on-its-network/> (last accessed July 11, 2013). Cellcom sequentially offered the Novatel Wireless MiFi® 4510, HTC Desire 4G LTE, and iPhone 5, as well as the LG Optimus F5 4G LTE. *See e.g.*, “Wisconsin-based Cellcom joins rural LTE party,” Telegeography (May 2, 2012), *available at* <http://www.telegeography.com/products/commsupdate/articles/2012/05/02/wisconsin-based-Cellcom-joins-rural-lte-party/> (last accessed July 11, 2013); “HTC Desire 4G LTE Lands at Cellcom,” Softpedia (Sept. 21, 2012), *available at* <http://news.softpedia.com/news/HTC-Desire-4G-LTE-Lands-at-Cellcom-294023.shtml> (last accessed July 11, 2013); “Cellcom to offer iPhone 5 for \$149 and up starting Friday,” Engadget (Sept. 27, 2012), *available at* <http://www.engadget.com/2012/09/27/Cellcom-to-offer-iphone-5-for-149-and-up-starting-friday/> (last accessed July 11, 2013).

May 2013 that includes the iPhone 5, as well as a tablet, the ZTE Velox.⁶⁶ In sum, consumers today have a wide variety of options for matching their preferred phone with a carrier that satisfies their mobile wireless needs.

Consumers seeking to change providers also have a wide variety of competitive unlocking policies to choose from when selecting a wireless provider or a mobile wireless plan. Today there are more than 240 unlocked devices available for purchase, including the Apple iPhone 5, the BlackBerry Bold 9700, and the Samsung Galaxy S3.⁶⁷ Appendix B to these Reply Comments includes a full list of these phones that are readily accessible and may be purchased from a wireless carrier, retail store, or directly from the manufacturer. Moreover, CTIA and its members support legislation that would restore the ability of customers to unlock their devices without violating the Digital Millennium Copyright Act.

For consumers who prefer to sign a service contract with a carrier to receive a subsidized phone, carriers have liberal, publicly available unlocking policies that generally allow devices to be unlocked as long as the wireless subscriber has satisfied the terms of her contract,⁶⁸ and some carriers do not even lock the devices they sell.⁶⁹ Carriers that do lock their devices make these

⁶⁶ See H2O Wireless, <https://www.h2owirelessnow.com/pageControl.php?page=index> (last accessed June 24, 2013); see also Matt Hamblen, “AT&T Offers iPhone 5 through Pre-Paid Aio Wireless,” *Computer World* (May 10, 2013), available at http://www.computerworld.com/s/article/9239097/AT_T_offers_iPhone_5_through_pre_paid_Aio_Wireless (last accessed June 24, 2013) (“AT&T Offers iPhone 5 through Pre-Paid Aio Wireless”).

⁶⁷ See Appendix B, *updating* the list previously provided at “U.S. Offers a Variety of Unlocked Devices: Your Choice,” CTIA – The Wireless Association®, (Mar. 4, 2013), available at <http://blog.ctia.org/2013/03/04/unlocked-devices-2/> (last accessed June 25, 2013).

⁶⁸ Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, *Final Rule*, 77 Fed. Reg. 65260, 65265 (Oct. 26, 2012), *citing* Comments of CTIA – The Wireless Association®, at 8-9 (Feb. 10, 2012), available at http://files.ctia.org/pdf/CTIA_Circumvention_Comments.pdf (last accessed June 25, 2013).

⁶⁹ For example, Verizon Wireless, with certain limited exceptions, does not lock the mobile devices it sells. This includes all of its 4G LTE devices, such as the iPhone 5, and Verizon Wireless publishes the

policies readily available on their websites and customer service helplines. As with selling a home or car, the existence of an outstanding loan means that the finance company must receive full payment before the owner can transfer the deed or title. With locked handsets, wireless carriers have subsidized the purchase of the phone, and consumers can unlock their phone after they have satisfied the terms of the contract.

Wireless carriers typically have liberal unlocking policies that give consumer competitive options. For example, AT&T will “unlock a device for any customer whose account has been active for at least sixty days; whose account is in good standing and has no unpaid balance; and who has fulfilled his or her service agreement commitment.”⁷⁰ Sprint’s policy is to authorize unlocking for customers planning international travel if they have been in good standing for at least three months.⁷¹ For its customers not on service contracts, T-Mobile will unlock phones that are paid in full, as long as the requester’s account is in good standing and he or she has met certain minimum service period requirements.⁷² Given the wide variety of choice among handsets and the other factors that differentiate among carriers and networks, and the policies outlined above, this is an issue that has little to no impact on competition in the market for mobile services.

default manufacturer lock codes for its CDMA devices in its customer agreement, available on the Internet.

⁷⁰ “Bottom line: We Unlock Our Customers’ Devices,” AT&T (Mar. 8, 2013), *available at* <http://attpublicpolicy.com/wireless/bottom-line-we-unlock-our-customers%E2%80%99-devices/> (last accessed June 25, 2013).

⁷¹ Peter Svensson, “Verizon says the iPhone 5 won’t be ‘relocked,’” USAToday (Sept. 24, 2012), *available at* <http://usatoday30.usatoday.com/tech/story/2012/09/24/verizon-says-iphone-5-wont-be-relocked/57836744/1> (last accessed June 25, 2013) (“Verizon Says the iPhone 5 Won’t Be ‘Relocked’”).

⁷² *See* T-Mobile, <http://support.t-mobile.com/docs/DOC-1588> (last accessed June 26, 2013).

4. *Providers compete to roll out new service plans and offerings.*

As wireless providers have differentiated themselves by rolling out new service plans and offerings, including supporting “bring your own device” service plans, other carriers have responded in kind. For example, in 2013 T-Mobile eliminated post-pay contracts and ended handset subsidies.⁷³ In addition, T-Mobile recently started selling an unsubsidized iPhone, and analysts have seen this as posing a direct challenge to the overall dynamics of the wireless industry.⁷⁴ Facing this competitive challenge, other carriers have responded to T-Mobile. For example, shortly after T-Mobile’s changes, AT&T launched Aio Wireless with substantially parallel offerings, including making popular handsets such as the Samsung Galaxy Express and the iPhone 5 available without requiring a contract.⁷⁵ As discussed above, Verizon has also introduced a no-contract service plan that allows consumers to choose between buying their device over twenty-four monthly payments or paying off half of the value of the phone after six months and upgrading to a new device,⁷⁶ while AT&T has introduced a plan that allows consumers to make monthly payments on a device for a year and then trade that device in for a new one.⁷⁷ In another nod to accommodating consumers who increasingly view flexibility as a

⁷³ See T-Mobile Comments at 21; Olson, “T-Mobile Tears Up Service Contracts,” *see also* Verizon Comments at 13-14.

⁷⁴ See, e.g., “T-Mobile’s Success with No-Contract Plans Could Spur Industry Shift,” *Forbes* (May 15, 2013), *available at* <http://www.forbes.com/sites/greatspeculations/2013/05/15/t-mobiles-success-with-no-contract-plans-could-shake-up-industry/> (last accessed June 24, 2013).

⁷⁵ See Sarah Reedy, “Hello Aio! AT&T Joins Prepaid MVNO Crowd,” *Lightreading* (May 9, 2013), *available at* <http://www.lightreading.com/at-t/hello-aio-att-joins-prepaid-mvno-crowd/240154513> (last accessed June 24, 2013); *see also* Hamblen, “AT&T Offers iPhone 5 through Pre-Paid Aio Wireless.”

⁷⁶ See Chloe Albanesius, “Verizon Edge Upgrade Plan Starts Aug. 25,” *PC Mag* (July 18, 2013), *available at* <http://www.pcmag.com/article2/0,2817,2421956,00.asp> (last accessed July 25, 2013); *see also* Verizon Edge, <http://news.verizonwireless.com/news/2013/07/edge-device-payment-early-upgrade.html>.

⁷⁷ See Chen, “Two New Plans to Upgrade Smartphones,” *see also* AT&T Next, http://www.att.com/shop/wireless/next.html?WT.srch=1&wtPaidSearchTerm=at%26t+next#fbid=_7V-IDWqCY3.

desirable trait in a wireless provider, AT&T, T-Mobile, Verizon, and other operators have begun affirmatively inviting consumers to “bring their own device” to their networks,⁷⁸ while Sprint allows consumers to bring used, inactive Sprint devices to the network of a Sprint-affiliated MVNO.⁷⁹

Although the Writers Guild of America, West (“Writers Guild”) notes in its comments that AT&T and Verizon have phased out unlimited data plans,⁸⁰ it fails to add that these carriers are exploring other options for data purchases, while other carriers have embraced unlimited data plans. For example, Sprint includes unlimited data plans for all smartphones, and its CEO has affirmed that the company has no intention of imposing limits on data usage.⁸¹ Last year, T-Mobile also introduced an unlimited data package, allowing consumers to choose from a variety of data options.⁸² Moreover, for tablet users, AT&T makes available data-only plans that start at

⁷⁸ See “AT&T Revises Upgrade Eligibility,” AT&T Consumer Blog (June 9, 2013), *available at* <http://blogs.att.net/consumerblog/story/a7790084> (last accessed July 8, 2013); T-Mobile Bring Your Own Phone, *available at* <http://explore.t-mobile.com/phone-sim-card> (last accessed June 24, 2013); Verizon Service Checklist FAQs, http://support.verizonwireless.com/faqs/Wireless%20Service/ctia_checklist.html (last accessed June 24, 2013). These “bring your own device” policies are not unique to these operators. Companies such as Immix Wireless also invite consumers to bring their own devices to their network. See *e.g.*, <http://www.immix.com/> (last accessed July 14, 2013).

⁷⁹ See Press Release, “Sprint Gives MVNOs an Alternative to Phone Subsidies Through ‘Bring Your Own Sprint Device’ Program,” Sprint (Mar. 5, 2013), *available at* <http://newsroom.sprint.com/news-releases/sprint-gives-mvnos-an-alternative-to-phone-subsidies-through-bring-your-own-sprint-device-program.htm> (last accessed June 24, 2013); Andrew Martonik, “‘Bring Your Own Sprint Device’ Lets Users Activate Used Sprint Phones on MVNOS,” Android Central (Mar. 5, 2013), *available at* <http://www.androidcentral.com/bring-your-own-sprint-device-let-users-activate-used-phones-mvnos> (last accessed July 25, 2013).

⁸⁰ See WGAW Comments at 4.

⁸¹ See Salvador Rodriguez, “Sprint CEO Talks Unlimited Data, LTE, SoftBank and DISH Network,” LA Times (Apr. 29, 2013), *available at* <http://articles.latimes.com/2013/apr/29/business/la-fi-tn-sprint-ceo-daniel-hesse-20130429> (last accessed June 24, 2013).

⁸² See Roger Yu, “T-Mobile to Launch New Unlimited Data Plan,” USA Today (Aug. 22, 2012), *available at* <http://usatoday30.usatoday.com/tech/news/story/2012-08-22/tmobile-data-plans/57195400/1> (last accessed June 24, 2013).

just \$30 a month for 4 GB of data,⁸³ and the CEO of AT&T has suggested that data-only plans for smartphones will be available in the next two years.⁸⁴ AT&T, Cellcom, and Verizon offer “data share” plans, which allow users to purchase a bucket of data that can be shared among several devices.⁸⁵

MVNOs and other regional carriers are also providing consumers with innovative alternatives, including unlimited text and data plans.⁸⁶ For example, Cricket offers a variety of unlimited calling, messaging and data service plans.⁸⁷ The MVNO Ting initially launched its service with a model that asked consumers to make a monthly “down payment” on a plan, and the provider would then refund the cost of any unused voice, text, or data components at the end

⁸³ See Zach Epstein, “AT&T Announces New Data Plans for Smartphones and Tablets,” BGR (Jan. 18, 2012), *available at* <http://bgr.com/2012/01/18/att-announces-new-data-plans-for-smartphones-and-tablets/> (last accessed July 25, 2013); *see also* AT&T Wireless Data Plans, <http://www.att.com/shop/wireless/plans/dataplans.html> (last accessed July 25, 2013).

⁸⁴ See Peter Svensson, “AT&T: Data-Only Plans Coming for Phones in 2 Years,” Huffington Post (June 1, 2012), *available at* http://www.huffingtonpost.com/2012/06/01/att-data-only-plans_n_1562870.html (last accessed June 24, 2013).

⁸⁵ See AT&T Data Device Plans, <http://www.att.com/shop/wireless/plans/mobilesharedata.html> (last accessed June 24, 2013); Cellcom Share Plans, <http://www.cellcom.com/planDetails.html?navtype=personal&service=calling&type=family&plan=share> (last accessed July 11, 2013); Verizon Share Everything, <http://www.verizonwireless.com/wcms/consumer/explore/share-everything.html> (last accessed June 24, 2013).

⁸⁶ See, e.g., Straight Talk, https://www.straighttalk.com/wps/portal/home/shop/serviceplans!/ut/p/b1/04_Sj7SwsDCzMDQ30o_Qj8pLLMtMTyzJzM9LzAHxo8ziXQy8fi0DHT2MgjzMTQ08Azycg93N_QxMHI31w_WjwEoMcABHA6gCXGYYmONX4O9mpO_nkZ-bqp8b5eWa5qioCADxkzSh/?s=y (last accessed June 24, 2013); Solavei, <http://www.solavei.com/mobile-service> (last accessed June 24, 2013).

⁸⁷ See Cricket Communications Unlimited Cell Phone Plan Guide, <http://www.mycricket.com/cell-phone-plans/unlimited-mobile-plan-guide> (last accessed July 25, 2013); Cricket Mobile Plans, Smartphone Plans and Muve Music Plans, <http://www.mycricket.com/cell-phone-plans#basic-plans>, <http://www.mycricket.com/cell-phone-plans#android-plans>, and <http://www.mycricket.com/cell-phone-plans#4g-lte-plans> (all last accessed July 11, 2013). See also C Spire Wireless, http://www.cspire.com/shop_and_learn/plans/ (last accessed June 24, 2013).

of each month.⁸⁸ In June 2013, Ting announced that, instead of asking consumers to pick a plan, it would switch to setting up a dashboard to allow consumers to monitor their voice, text and data usage, and then bill them for the voice minutes, texts, or quantity of data used at the end of each month.⁸⁹ FreedomPOP, which began operating in 2012 and utilizes Sprint's 3G network and Clearwire's 4G network, offers customers 500 MB of free data per month.⁹⁰ The mobile wireless provider Zact gives consumers granular control over their plans, including allowing them to dynamically change their plans through an online dashboard mid-billing cycle, based on their needs.⁹¹ Zact also offers app-specific plans, such as one that allows consumers to have unlimited access to Facebook for \$5 per month, without adding a data plan.⁹²

⁸⁸ See Ting—Monthly Rates, <https://ting.com/rates> (last accessed June 25, 2013); Mike Dano, "MVNO Ting to reach breakeven in Q4; 40-50% of new customers are BYOD," FierceWireless.com (May 23, 2010), *available at* <http://www.fiercewireless.com/story/mvno-ting-reach-breakeven-q4-40-50-new-customers-are-byod/2013-05-23> (last accessed June 26, 2013); *see also* Phil Goldstein, "MVNO Ting Drops Need for Deposit, Moves to Postpaid Billing Model," Fierce Wireless (June 21, 2013), *available at* <http://www.fiercewireless.com/story/mvno-ting-drops-need-deposit-moves-postpaid-billing-model/2013-06-21> (last accessed June 26, 2013) ("MVNO Ting Drops Need for Deposit").

⁸⁹ Michael Goldstein, "Ting Has Eliminated Plans," Ting Blog (June 20, 2013), <https://ting.com/blog/ting-has-eliminated-plans/> (last accessed June 26, 2013); *see also* Goldstein, "MVNO Ting Drops Need for Deposit."

⁹⁰ See Rolfe Winkler, "Start-Up Skirts Cellphone Data Plans," Wall Street Journal (Oct. 1, 2012), *available at* <http://online.wsj.com/article/SB10000872396390443862604578028452045153628.html> (last accessed July 8, 2013); Press Release, FreedomPOP, FreedomPop Expands Coverage Nationwide with Sprint's 3G Network (Apr. 24, 2013), *available at* <http://online.wsj.com/article/PR-CO-20130424-910421.html> (last accessed July 8, 2013).

⁹¹ See Zact, <http://www.zact.com/cell-phone-plans> (last accessed June 26, 2013); *see also* Phil Goldstein, "Sprint MVNO Zact Offers Customized Data Plans, No Overage Charges," Fierce Wireless (May 13, 2013), *available at* <http://www.fiercewireless.com/story/sprint-mvno-zact-offers-customized-data-plans-no-coverage-charges/2013-05-13> (last accessed June 26, 2013) ("Sprint MVNO Zact Offers Customized Data Plans, No Overage Charges").

⁹² Goldstein, "Sprint MVNO Zact Offers Customized Data Plans, No Overage Charges."

B. The competitive wireless industry is continuing to invest in infrastructure and new technologies.

In its comments, the Writers Guild suggests that wireless carriers could address congestion issues through “infrastructure upgrades” and network management practices.⁹³ As discussed more fully in the initial comments submitted by CTIA, capital improvements are in fact an important element in meeting the surging demand for wireless data, which is why wireless carriers have invested heavily in recent years to expand and upgrade their infrastructure.⁹⁴ In 2012 alone, wireless carriers spent \$30.1 billion in capital expenditures,⁹⁵ which represents an average investment of \$94 per subscriber almost six times the global average.⁹⁶ This substantial investment comes on the heels of \$25 billion in capital expenditures in 2011.⁹⁷ In total, annual spending on wireless infrastructure has increased almost 50 percent since 2009.⁹⁸ Although serving only 5 percent of the world’s wireless users, U.S. wireless carriers make a quarter of the world’s total wireless capital expenditures.⁹⁹

One prominent example of these massive investments is the amount of expenditures to ensure the rapid deployment of LTE technology. AT&T has invested nearly \$98 billion to improve and expand its wireless and wireline networks over the past five years, and anticipates

⁹³ See WGAW Comments at 4.

⁹⁴ See CTIA Comments at 3-12.

⁹⁵ CTIA – The Wireless Association®, *CTIA’s Wireless Industry Indices: Year-End 2012 Results*, 108 (May 2013) (“*CTIA’s 2012 Wireless Indices*”); see also Verizon Comments at 2, 17-20 (citing statistics on the amount of investment in wireless infrastructure, and noting that since 2000 Verizon has invested over \$80 billion in its network).

⁹⁶ See Mobile Future Comments at 7; T-Mobile Comments at 5 n.12, citing Press Release, “CTIA – The Wireless Association® Semi-Annual Survey Shows U.S. Wireless Providers Invested Almost Six Times More Per Subscriber than Rest of World,” CTIA – The Wireless Association® (May 2, 2013), available at <http://www.ctia.org/media/press/body.cfm/prid/2261> (last accessed June 25, 2013).

⁹⁷ *CTIA’s 2012 Wireless Indices* at 108.

⁹⁸ *Id.* at 107-108.

⁹⁹ AT&T Comments at 9.

investing around \$21 billion in 2013.¹⁰⁰ AT&T's "Project Velocity" consists of an investment of \$8 billion in wireless infrastructure over the next three years targeted at the expansion of the carrier's LTE coverage.¹⁰¹ Since 2000, Verizon has spent more than \$80 billion on improvements to its network, with capital expenditures of over \$26 billion in the past three years alone.¹⁰² Sprint and T-Mobile are also spending heavily to deploy improved infrastructure. Sprint is pursuing its "Network Vision" project to integrate its 3G and 4G networks into a single nationwide infrastructure, and since the beginning of 2012 has invested \$7.2 billion in this project, deploying more than 13,500 Network Vision sites with 25,000 more sites ready for construction or already underway.¹⁰³ Meanwhile, T-Mobile invested \$1.1 billion in LTE deployment in the first quarter of 2013 alone.¹⁰⁴ The vigorous expenditures of these providers, and those of their regional competitors, to ensure the adoption of new technologies is a sign of the healthy state of competition in the wireless marketplace.¹⁰⁵

Many regional carriers are also investing heavily in LTE deployment and their wireless networks. For example, U.S. Cellular estimates that it will make more than \$700 million in capital expenditures in 2013, on top of \$837 million in 2012.¹⁰⁶ Leap Wireless invested more

¹⁰⁰ "AT&T Investment Drives Service Improvements," AT&T, *available at* http://www.att.com/Common/about_us/pdf/network_investment_infographic.pdf (last accessed July 9, 2013).

¹⁰¹ See Roger Cheng, "AT&T Will Spend \$14B to Pump Up Wireless, Wireline Networks," CNet (Nov. 7, 2012), *available at* [http://news.cnet.com/8301-1035_3-57546244-94/at-t-will-spend-\\$14b-to-pump-up-wireless-wireline-networks/](http://news.cnet.com/8301-1035_3-57546244-94/at-t-will-spend-$14b-to-pump-up-wireless-wireline-networks/) (last accessed July 8, 2013).

¹⁰² See Verizon Comments at 19.

¹⁰³ See Sprint Comments at 5.

¹⁰⁴ See AT&T Comments at 10.

¹⁰⁵ See Reply Comments of Free State Foundation, WT Docket No. 13-135 (filed July 1, 2013), at 4.

¹⁰⁶ U.S. Cellular and Telephone and Data Systems, *TDS and U.S. Cellular First Quarter 2013 Presentation* (May 3, 2013), *available at* <http://phx.corporate-ir.net/phoenix.zhtml?c=106793&p=irol-IRHome> (last accessed June 27, 2013). See also *U.S. Cellular 2012 Annual Report with Supplemental Materials, Performance Highlights*, *available at* <http://www.corporate->

than \$434 million in 2012 and announced that in 2013 it would make capital expenditures of between \$250 and \$300 million, including up to \$100 million in costs associated with potential LTE build-out.¹⁰⁷ And, as NTCA reported, small regional carriers invest an average of \$11.7 million each in their wireless infrastructure annually.¹⁰⁸

The Telecommunications Industry Association predicts double-digit increases in capital expenditures over the next two years.¹⁰⁹ Cumulative spending during the next four years is estimated to total \$138.7 billion, 42 percent more than the investment of the previous four years.¹¹⁰ Spending on services in support of wireless infrastructure, *e.g.* LTE, GSM, CDMA, HSPA+, Wi-Fi and WiMAX infrastructures, is similarly expected to increase, with double-digit gains in the next two years.¹¹¹ Support services spending is projected to reach \$26.9 billion in 2016, up from \$19.2 billion in 2012.¹¹²

The Writers Guild argues that, to ensure that valuable spectrum is not underutilized, the Commission should impose “multiple, quantifiable service benchmarks throughout the license term,” require licensees to make annual “[r]eports on network deployment,” and subject

ir.net/media_files/irol/10/106793/usc2012_final_2/performance-highlights.html (last accessed July 11, 2013).

¹⁰⁷ Leap Wireless, *4Q12 Earnings Conference Call Presentation* (Feb. 20, 2013), at 18, and *1Q13 Earnings Conference Call Presentation* (Apr. 30, 2013), at 18, both available at <http://investor.leapwireless.com/phoenix.zhtml?c=95536&p=irol-presentations> (last accessed July 11, 2013).

¹⁰⁸ NTCA—The Rural Broadband Association, *NTCA 2012 Wireless Survey Report* (Sept. 2012), 9, available at <http://www.ntca.org/images/stories/Documents/Advocacy/SurveyReports/2012ntcawirelessurveyreport.pdf> (last accessed June 27, 2013).

¹⁰⁹ See Comments of the Telecommunications Industry Association, WT Docket No. 13-135, at 7 (filed June 17, 2013) (“TIA Comments”).

¹¹⁰ *Id.*

¹¹¹ *Id.* at 8.

¹¹² *Id.*

licensees who fail to meet these requirements to “use it or share it” conditions.¹¹³ However, these comments overlook that the Commission *already* requires CMRS licensees to meet a variety of meaningful performance benchmarks.¹¹⁴

In addition, the Commission’s build-out requirements are strictly enforced. Licensees are required to notify the Commission that they have met a build-out requirement no later than fifteen days after the build-out deadline.¹¹⁵ If no notice is received, the Commission automatically places the license in “termination pending” status.¹¹⁶ The license will then be terminated after thirty days unless the licensee affirmatively files a petition for reconsideration.¹¹⁷ Although the Commission is authorized to grant waivers of build-out requirements, the petitioning licensee must meet a high standard by establishing that: 1) the underlying purpose of the rule would not be served by application to the current situation; or 2)

¹¹³ WGAW Comments at 6-7; *see also* NTCA Reply Comments at 8 (“The Commission should...force large carriers to part with unused spectrum after a reasonable build-out period.”).

¹¹⁴ For example, licensees in the upper 700 MHz C Block must cover at least 40 percent of their license area within four years and at least 75 percent by the end of their term. *See* 47 C.F.R. § 27.14(h). Similarly, lower 700 MHz A, B, and E Block licensees must provide signal coverage and offer service over at least 35 percent of their license areas within four years and over at least 70 percent of the license area by the end of the license term. *See* 47 C.F.R. § 27.14(g). The Commission has imposed a build-out requirement for other wireless services as well. *See, e.g.*, 47 C.F.R. § 27.14.

¹¹⁵ *See* 47 C.F.R. § 1.946.

¹¹⁶ Federal Communications Commission, Construction/Coverage Requirements, http://wireless.fcc.gov/licensing/index.htm?job=const_req_home (last accessed June 25, 2013); *see, e.g.*, Wireless Telecommunications Bureau Market Based Licenses Termination Pending Public Notice, Report No. 8415 (Jan. 30, 2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-318639A1.pdf (last accessed June 25, 2013); Wireless Telecommunications Bureau Market Based Licenses Termination Pending Public Notice, Report No. 6542 (Jan. 12, 2011), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-304051A1.pdf (last accessed June 25, 2013).

¹¹⁷ 47 C.F.R. §§ 1.946, 1.955, 90.767; Federal Communications Commission, Construction/Coverage Requirements, http://wireless.fcc.gov/licensing/index.htm?job=const_req_home (last accessed June 25, 2013); *see, e.g.*, Wireless Telecommunications Bureau Market Based Licenses Termination Pending Public Notice, Report No. 8415 (Jan. 30, 2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-318639A1.pdf (last accessed June 25, 2013); Wireless Telecommunications Bureau Market Based Licenses Termination Pending Public Notice, Report No. 6542 (Jan. 12, 2011), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-304051A1.pdf (last accessed June 25, 2013).

unique or unusual factual circumstances exist that would make the application of the rule inequitable, unduly burdensome, or contrary to the public interest in the current situation.¹¹⁸ The Commission has consistently held that a licensee's business decisions, such as failing to order the necessary equipment in time, are not sufficient for relief.¹¹⁹

The Commission uses auctions to allocate licenses, ensuring that the winning licensee is the highest-value user of that spectrum and the entity with the strongest desire to deploy the spectrum effectively. Indeed, carriers would not invest so heavily in purchasing new spectrum if they planned to then "warehouse" that spectrum and face possible sanctions by the Commission. Carriers compete fiercely on network coverage and quality, making it imperative for them to build out the spectrum they have, and this is particularly true given the exploding demand for wireless data that has made existing spectrum holdings increasingly congested. For example, many AWS and other licensees built out their spectrum years ahead of the applicable build-out deadlines.

C. Developments within the industry have provided further investment opportunities to drive stronger and more disruptive competitors.

The White House has recognized the competitive nature of the mobile wireless marketplace, noting recently that "[a] combination of American entrepreneurship and innovation, private investment, and smart policy has positioned the United States as the global leader in

¹¹⁸ See *Longhorn Communications Inc.'s Request for Waiver or Extension of Time to Construct Call Signs WPOJ213, WPOJ215, WPOJ216, WPOJ217, WPOJ218, WPOJ219, WPOJ220, WPOJ221, WPOJ222, WPOJ223, WPOJ224, WPOJ225, WPOJ226, WPOJ227, WPOJ228, WPOJ230 and WPOJ233*, Letter, DA 11-841, at 3 (May 5, 2011) ("Longhorn Letter"); see also 47 C.F.R. § 1.925; *Amendment of the Commission's Rules To Establish New Personal Communications Services*, Memorandum Opinion and Order, 9 FCC Rcd 4957, 5019 (1994).

¹¹⁹ See, e.g., Longhorn Letter at 4 (citing numerous Commission decisions).

wireless broadband technologies.”¹²⁰ Developments within the industry have provided additional investment opportunities to drive stronger and more disruptive competitors to benefit consumers. Examples of this boom in activity in the market sector include SoftBank’s bid to invest \$21.6 billion in Sprint, recently approved by the Commission, which will allow it to obtain a 78 percent interest in the carrier.¹²¹ As Acting Chairwoman Clyburn noted in a statement accompanying the Commission’s Order, increased investment in Sprint’s networks is likely to “enhance competition in the mobile marketplace,” promote consumer choice and innovation, and lower prices.¹²² With SoftBank’s investment approved, Sprint will “be in a stronger competitive position, with greater financial flexibility, increased scale and additional industry knowledge and perspective” than before, and better able to compete against larger carriers.¹²³ Indeed, Softbank subsequently committed to spending \$16 billion over the next two years.¹²⁴ The Commission also approved Sprint’s own efforts to acquire the remaining shares of Clearwire that it did not

¹²⁰ “Expanding America’s Leadership in Wireless Innovation,” Presidential Memorandum (June 14, 2013), *available at* <http://www.whitehouse.gov/the-press-office/2013/06/14/presidential-memorandum-expanding-americas-leadership-wireless-innovation> (last visited June 21, 2013) (“*Expanding America’s Leadership in Wireless Innovation*”).

¹²¹ *See generally* Applications of SoftBank Corp., Starburst II, Inc., Sprint Nextel Corporation, and Clearwire Corporation for Consent to Transfer Control of Licenses and Authorizations; Petitions for Reconsideration of Applications of Clearwire Corporation for Pro Forma Transfer of Control, IB Docket No. 12-343, ULS File Nos. 0005480932, *et. al.*, *Memorandum Opinion and Order, Declaratory Ruling, and Order on Reconsideration*, FCC 13-92 (rel. July 5, 2013) (“*SoftBank-Sprint MO&O*”); *see also* Sharon Terlep, Mayumi Negishi and Thomas Gryta, “SoftBank Raises Offer for Sprint to \$21.6 Billion,” *Wall Street Journal* (June 10, 2013), *available at* <http://online.wsj.com/article/SB10001424127887324634304578538031558772040.html> (last accessed June 24, 2013).

¹²² *See SoftBank-Sprint MO&O*, Statement of Acting Chairwoman Mignon Clyburn.

¹²³ Scott Moritz, “Sprint Sets Sights on Verizon, AT&T and Deal Fight Recedes,” *Bloomberg* (June 26, 2013), *available at* <http://www.bloomberg.com/news/2013-06-26/sprint-sets-sights-on-verizon-at-t-as-deal-fight-recedes.html> (last accessed June 26, 2013).

¹²⁴ *See* John Fremels, “The future looks bright as Sprint completes acquisition of Clearwire, and Softbank invests billions in Sprint,” *Pocketables Forum* (July 9, 2013), *available at* <http://www.pocketables.com/2013/07/the-future-looks-bright-as-sprint-completes-acquisition-of-clearwire-and-softbank-invests-billions-in-sprint.html> (last accessed July 11, 2013).

already own, enabling it to add Clearwire's 11 million subscribers and 2.5 GHz spectrum assets to its portfolio.¹²⁵ As one commenter noted, this transaction will allow Sprint to provide faster network speeds, and will enhance competition in the mobile industry.¹²⁶ As noted above, T-Mobile's recent acquisition of MetroPCS, which added 9 million subscribers and MetroPCS's spectrum holdings to T-Mobile's assets, has already yielded benefits, as the transition to switch the MetroPCS network to a blend of HSPA+ and LTE is ahead of schedule.¹²⁷ As the Writers Guild observed approvingly, T-Mobile's acquisition of AWS spectrum from MetroPCS will result in increased wireless competition by encouraging national LTE deployment¹²⁸ and render T-Mobile "an even stronger disruptive force in the U.S. wireless market."¹²⁹

¹²⁵ See generally *SoftBank-Sprint MO&O*; see also Roger Yu, "Dish Raises Bid to Buy Clearwire to Top Sprint's Offer," USA Today (May 31, 2013), available at <http://www.usatoday.com/story/money/2013/05/30/dish-raises-clearwire-bid/2371439/> (last accessed June 24, 2013); Press Release, "Sprint and Clearwire Agree to Increased Acquisition Offer," Sprint (June 20, 2013), available at <http://newsroom.sprint.com/news-releases/sprint-and-clearwire-agree-to-increased-acquisition-offer.htm> (last accessed June 24, 2013). Shareholders in Clearwire voted on July 8, 2013 to approve Sprint's buyout of the company. See "Clearwire Shareholders Vote for Sprint Takeover," Reuters (July 8, 2013), available at <http://www.reuters.com/article/2013/07/08/clearwire-sprint-idUSL1N0FE15520130708> (last accessed July 8, 2013).

¹²⁶ See WGAW Comments at 7-8; see also Dan Graziano, "Sprint Completes Purchase of Clearwire," BGR (July 9, 2013), available at <http://bgr.com/2013/07/09/sprint-clearwire-acquisition-completed/> (last accessed July 9, 2013) (noting that the acquisition will "help the company better compete with AT&T and Verizon, while fending off increased competition from T-Mobile."); AT&T Comments at 3, 7-8.

¹²⁷ See Press Release, "T-Mobile and MetroPCS Combination Complete—Wireless Revolution Just Beginning," T-Mobile (May 1, 2013), available at <http://investor.t-mobile.com/phoenix.zhtml?c=177745&p=irol-newsArticle&ID=1813508&highlight=> (last accessed June 24, 2013); see also Lance Whitney, "It's Official: T-Mobile, MetroPCS Are Now One," CNET (May 1, 2013), available at http://news.cnet.com/8301-1035_3-57582275-94/t-mobile-metropcs-are-now-one/ (last accessed June 24, 2013); Jon Fingas, "T-Mobile Says MetroPCS Network Transition Is Ahead of Schedule," Engadget (June 16, 2013), available at <http://www.engadget.com/2013/06/16/t-mobile-says-metropcs-network-transition-is-ahead-of-schedule/> (last accessed June 26, 2013).

¹²⁸ See WGAW Comments at 7-8.

¹²⁹ Hayley Tsukayama, "T-Mobile, MetroPCS Finish Deal, Ring NYSE Bell," Washington Post Post Tech Blog (May 1, 2013), available at http://www.washingtonpost.com/blogs/post-tech/post/t-mobile-metropcs-finish-deal-will-ring-nyse-bell/2013/05/01/f796b14a-b25c-11e2-bbf2-a6f9e9d79e19_blog.html (last accessed June 26, 2013) (quoting John Legere, President and CEO of T-Mobile US, Inc.).

Investment opportunities in the mobile wireless marketplace are not limited to the largest carriers. In May 2013, TracFone, which boasts more than 23 million customers, announced that it planned to acquire Page Plus Cellular, an MVNO with 1.4 million customers.¹³⁰ This acquisition comes on the heels of TracFone's 2012 purchase of MVNO Simple Mobile and its 1 million customers.¹³¹

As another sign that innovation in the U.S. mobile marketplace is booming, between 2002 and 2012, mobile-related patents in the U.S. increased 591 percent, and in 2012, the U.S. Patent and Trademark Office ("U.S. PTO") granted nearly three times as many mobile patents as the European Patent Office.¹³² As of the first quarter of 2012, over 21 percent of all patents granted by the U.S. PTO were mobile-related,¹³³ and in a sign of continuing growth, analysts predict that one quarter of all patents issued in 2013 will be for mobile technologies.¹³⁴

III. THE DATA REFLECT THAT WIRELESS COMPETITION IS CREATING UNPARALLELED BENEFITS FOR AMERICAN CONSUMERS

A. Consumer satisfaction with wireless services is at a record high.

Competition in the wireless market is creating unprecedented benefits for consumers. Consumers are receiving greater value from wireless voice and data services than ever before

¹³⁰ Mike Dano, "TracFone Acquires Verizon MVNO Page Plus Cellular and Its 1.4M Customers," *Fierce Wireless* (May 20, 2013), *available at* <http://www.fiercewireless.com/story/tracfone-acquires-verizon-mvno-page-plus-cellular-and-its-14m-customers/2013-05-20> (last accessed June 27, 2013).

¹³¹ *See id.*

¹³² *See* Stephen Lawson, "One-Quarter of U.S. Patents Issued This Year Will Be in Mobile, Study Says," *Computer World* (Mar. 27, 2013), *available at* http://www.computerworld.com/s/article/9237950/One_quarter_of_U.S._patents_issued_this_year_will_be_in_mobile_study_says (last accessed June 24, 2013) ("One-Quarter of U.S. Patents Issued This Year Will Be in Mobile"); *see also* "U.S. Mobile Market Update." The mobile explosion has been slower in Europe, where today only one out of every ten patents relates to mobile. *See* Lawson, "One-Quarter of U.S. Patents Issued This Year Will Be in Mobile."

¹³³ *See* "Mobile Patents Landscape," Chetan Sharma Consulting (2012), *available at* <http://www.chetansharma.com/MobilePatentsLandscape.htm> (last accessed July 9, 2013).

¹³⁴ *See* Lawson, "One-Quarter of U.S. Patents Issued This Year Will Be in Mobile."

and, according to the American Consumer Satisfaction Index's May 2013 Report, express record-high satisfaction with wireless services.¹³⁵ MyWireless.org's April 2013 survey of mobile device users also reported extraordinarily high rates of consumer satisfaction with their wireless service, finding that 91 percent of users are "highly satisfied with their wireless phone service."¹³⁶ The same study also found that consumers are satisfied with the mobile devices and voice and data plans offered by their wireless carrier, with a significant majority of consumers "giv[ing] wireless carriers a positive rating when asked about the job they are doing in providing choices of wireless devices (73%) and service plans (61%)."¹³⁷ The results of a 2013 J.D. Power and Associates study also showed that satisfaction among smartphone customers increased "significantly" from 2011 to 2012.¹³⁸

As a result of a high level of satisfaction with wireless services, plans, and handsets, consumers are shifting more of their daily online activities to smartphones and other mobile devices. The U.S. has one of the highest percentage of wireless consumers with data plans, with 96% of U.S. smartphone users having a data plan.¹³⁹ McKinsey reports that approximately 30 percent of Internet browsing and 40 percent of social media use now occurs on mobile devices,

¹³⁵ "Quarterly Update on U.S. Overall Customer Satisfaction," American Consumer Satisfaction Index, at 11 (May 2013), *available at* <http://marketing.theacsi.org/acton/attachment/5132/f-0009/1/-/-/-/file.pdf> (last accessed June 25, 2013).

¹³⁶ MyWireless.org, 2013 Annual Consumer Survey, <http://www.mywireless.org/media-center/data-center/2013-national-survey/> (last accessed June 25, 2013) ("MyWireless.org 2013 Consumer Survey").

¹³⁷ *Id.*

¹³⁸ Press Release, "2013 U.S. Wireless Smartphone Satisfaction Study—Volume 1 and 2013 U.S. Wireless Traditional Mobile Phone Satisfaction Study—Volume 1," J.D. Power and Associates (Mar. 21, 2013), *available at* <http://www.jdpower.com/content/press-release/5TA5Uk/2013-u-s-wireless-smartphone-satisfaction-study-volume-1-and-2013-u-s-wireless-traditional-mobile-phone-satisfaction-study-volume-1.htm> (last accessed June 26, 2013).

¹³⁹ See "The Mobile Consumer: A Global Snapshot," Nielson (Feb. 2013), at 15, *available at* <http://www.nielson.com/content/dam/corporate/us/en/reports-downloads/2013%20Reports/Mobile-Consumer-Report-2013.pdf> (last accessed June 24, 2013).

and that “by 2015, wireless web use is expected to exceed wired use.”¹⁴⁰ Mobile web usage will only continue to grow as ubiquitous wireless connectivity, advances in mobile devices, and the continued proliferation of applications enable users to access information more quickly and take advantage of new products and services.

B. American consumers receive more value from wireless services than ever before.

American consumers are currently receiving unparalleled value from their wireless services. MyWireless.org reports that, when asking consumers to weigh the price paid for wireless phone service and the benefits that service provides them, “over two-thirds (69%) consider their wireless phone service to be either an ‘excellent’ (25%) or ‘good’ (44%) value.”¹⁴¹ The McKinsey Global Institute has observed that in “fiercely competitive consumer markets,” such as the mobile Internet, “consumers capture the majority of the economic surplus created.”¹⁴² Mobile Internet users are also reaping the rewards of the advances in mobile technologies, networks, devices, and operating systems, and consumers increasingly rely on their wireless service, as “[m]ore than three-quarters (78%) consider their wireless service to be an essential service in their everyday life.”¹⁴³ For example, new mobile computing devices “now incorporate features such as ultra-high resolution screens with precise touch sensing, graphic-processing power rivaling game consoles, and new kinds of sensors.”¹⁴⁴ The processing power of the average smartphone has increased by about 25 percent per year over the past five years.¹⁴⁵ The

¹⁴⁰ “Disruptive Technologies: Advances that Will Transform Life, Business, and the Global Economy,” McKinsey Global Institute (May 2013) at 6 (“*McKinsey Report*”).

¹⁴¹ MyWireless.org 2013 Consumer Survey.

¹⁴² *McKinsey Report* at 15.

¹⁴³ MyWireless.org 2013 Consumer Survey.

¹⁴⁴ *McKinsey Report* at 29.

¹⁴⁵ *Id.* at 30.

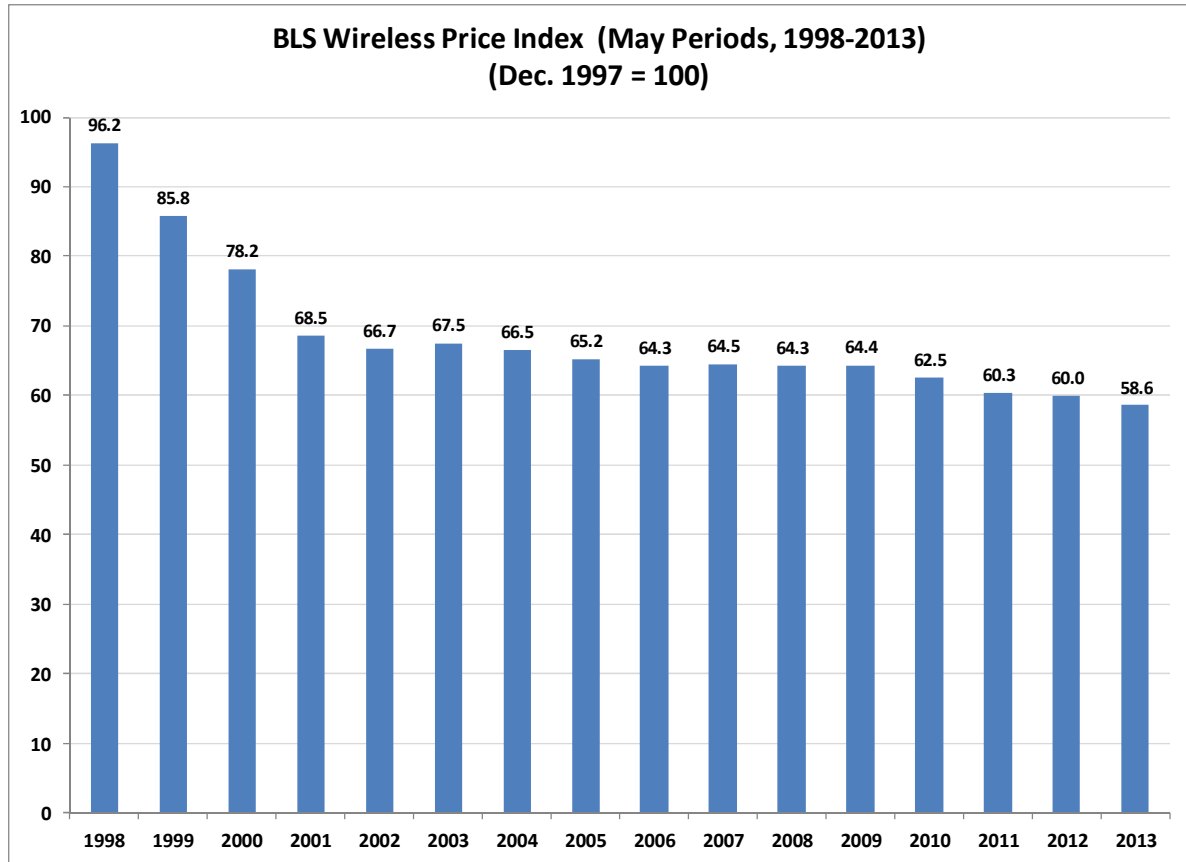
advance of 4G wireless networks offers increasingly fast data speeds, while allowing consumers to make seamless transitions from a home broadband network, to office Wi-Fi, to mobile voice and data services.¹⁴⁶ The wide range of capabilities offered by mobile software and applications “effectively plac[es] the capabilities of an array of gadgets (including PCs) in a mobile package that provides voice calling, Internet access, navigation, gaming, health monitoring, payment processing, and cloud access.”¹⁴⁷

These advances in devices, networks, software, and applications have occurred at the same time that mobile voice and data prices have decreased. As shown below, the Wireless Telephone Services component of the Consumer Price Index has fallen by more than 40 percent since 1997.¹⁴⁸

¹⁴⁶ *See id* at 29.

¹⁴⁷ *Id.*

¹⁴⁸ Bureau of Labor Statistics, Consumer Price Index Database, All Urban Consumers, Series ID CUUR0000SEED03, Wireless Telephone Services.



Source: Bureau of Labor Statistics, Consumer Price Index, All Urban Consumers, Series ID: CUUR0000SEED03.

Mobile voice and data prices have declined over the past fifteen years, and data plans offered by wireless carriers can access more functions than ever before. Consumers today can use their mobile device to browse the Internet, stream audio and video content, access GPS and real-time mapping functions, make deposits and other financial transactions, engage in social networking, hail a taxi, shop, program their home electronics, edit and upload photographs and multimedia files directly to the Internet, and even make VoIP calls, directly competing with the carrier's voice service.¹⁴⁹ The world is indeed "going wireless,"¹⁵⁰ and analysts predict that by 2025,

¹⁴⁹ See Verizon Comments at 4-5, 29-30.

¹⁵⁰ See "Unleashing the Wireless Broadband Revolution."

approximately 80 percent of all Internet connections may be through a mobile device, and the mobile Internet could generate a global annual economic effect of \$3.7 to 10.8 trillion.¹⁵¹

C. The significant consumer benefits are being threatened by excessive and discriminatory taxes on wireless services.

Although Americans are overwhelmingly satisfied with their wireless services, receive more value from wireless services than ever before, and have seen consistent reductions in the prices they pay for mobile devices and voice and data services, consumers continue to be frustrated by excessive and discriminatory taxes on wireless services. On average, as of July 2012, wireless consumers pay 17.18 percent in taxes and fees on wireless services, which is significantly higher than the average tax rate that consumers pay on other goods and services and represents more than a 5 percent increase from the 16.26 percent tax rate they were required to pay in July 2010.¹⁵² Thus, while the prices that consumers pay for wireless services have decreased since 2010, the taxes, fees, and surcharges paid by the average wireless customer have increased.¹⁵³

The increasing burden of taxes and fees that states and localities are imposing on wireless services could suppress consumer demand for wireless services. Reduced demand would have a negative effect on carrier investments in next generation infrastructure, thereby hampering economic growth and job creation and potentially leading to lower tax receipts over the long-term. As Tax Analysts reports, “consumer demand for wireless service is price sensitive,” and the disparity between the taxes and fees on wireless services and on other taxable goods

¹⁵¹ *McKinsey Report* at 12, 32.

¹⁵² Scott Mackey, “Wireless Taxes and Fees Continue Growth Trend,” State Tax Notes, Tax Analysts, at 321, 323 (Oct. 29, 2012), *available at* <http://www.ksefocus.com/wordpress-content/uploads/2012/11/mackey-state-tax-notes.pdf> (last accessed June 26, 2013) (“Wireless Taxes and Fees Continue Growth Trend”).

¹⁵³ *See id.* at 321.

artificially suppresses the demand for wireless services.¹⁵⁴ Over time, decreased consumer demand as a result of discriminatory taxes “may slow investment in wireless infrastructure,” which in turn would slow the benefits that wireless networks have proven to provide to the larger economy due to the concomitant increases in productivity and efficiency.¹⁵⁵

Analysts have speculated that if mobile wireless services were subject to the same tax treatment as other taxable goods and services, “increased carrier revenue could make as much as \$3 billion more per year available to invest in network expansion and improvements.”¹⁵⁶ Economists have found that investments in wireless infrastructure foster entrepreneurship, particularly in the development of applications and devices that allow businesses to be more productive, “so that they can create new jobs and generate economic activity and tax revenue for governments.”¹⁵⁷ Wireless infrastructure improvements can also enable governments to operate more efficiently and deliver services more cost effectively.¹⁵⁸ As the International Chamber of Commerce explained, although “[r]emedying the discriminatory tax treatment of telecom goods and services may reduce tax receipts in the short-term...the longer-term increase in use of advanced capability devices, service demand, and network deployment resulting from tax reductions is likely to counteract this loss of tax revenues over time.”¹⁵⁹

In addition to slowing investments in next-generation wireless infrastructure, discriminatory taxes and fees on wireless services are most harmful to low-income Americans,

¹⁵⁴ *Id.* at 328.

¹⁵⁵ *Id.* at 327-28.

¹⁵⁶ *Id.* at 328.

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ “ICC discussion paper on the adverse effects of discriminatory taxes on telecommunications services,” International Chamber of Commerce, at 2 (Oct. 26, 2010), *available at* <http://www.iccindiaonline.org/downloads/disscusstion-paper-28-oct.pdf> (last accessed June 26, 2013).

the segment of the population that is the most reliant on wireless services. According to the Centers for Disease Control, adults living in poverty were more likely than those with higher incomes to rely solely on wireless services as a means of communication, with 54.3 percent of poor adults living in a wireless only household.¹⁶⁰ Thus, tax policies that increase the costs of wireless services are regressive and make it more burdensome for lower income Americans to access the basic information and communications they need to compete in the modern economy.¹⁶¹

IV. THE MOBILE BROADBAND ECOSYSTEM IS CREATING OPPORTUNITIES FOR ALL AMERICANS, INCLUDING WOMEN AND MINORITIES

A. The U.S. wireless industry is a huge economic driver for all populations.

The wireless industry in the U.S. supports millions of good, high-paying jobs, and directly or indirectly employs more than 3.8 million Americans, which accounts for 2.6 percent of all U.S. employment.¹⁶² In addition, wireless employees are paid 65 percent higher than the national average for other workers.¹⁶³ While total private sector jobs fell by 5.3 million between April 2007 and June 2011, the U.S. wireless industry gained almost 1.6 million new jobs in the same period.¹⁶⁴ The build-out of advanced wireless networks alone will generate between 350,000 and 770,000 jobs by 2016.¹⁶⁵

¹⁶⁰ See Stephen J. Blumberg & Julian Luke, “Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December 2012,” Centers for Disease Control—National Center for Health Statistics, at 3 (June 2013), *available at* <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201306.pdf> (last accessed June 26, 2013).

¹⁶¹ See Mackey, “Wireless Taxes and Fees Continue Growth Trend.”

¹⁶² See Roger Entner, “The Wireless Industry: The Essential Engine of U.S. Economic Growth,” Recon Analytics (2012), *available at* <http://reconanalytics.com/wp-content/uploads/2012/04/Wireless-The-Ubiquitous-Engine-by-Recon-Analytics-1.pdf> (last accessed July 8, 2013).

¹⁶³ See *id.*

¹⁶⁴ See Robert J. Shapiro and Kevin A. Hassett, NDN, *The Employment Effects of Advances in Internet and Wireless Technology: Evaluating the Transitions from 2G to 3G and from 3G to 4G* (Jan. 2012), *available at*

The mobile application market in particular provides many opportunities for Americans seeking employment. There are more than half a million jobs in the application sector alone, and 78 percent of application development companies are small businesses.¹⁶⁶ Application developers and related personnel work at large “tech” companies, small development shops, and start-ups. They work for health care systems, non-profits, and government agencies. Some start their own businesses, which have the chance to become hugely successful. They live and work in every state in the U.S.

Mobile wireless carriers are committed to encouraging new growth, development, and investment in the industry, and to that end a number of carriers, including all four major wireless providers, have long-standing supplier diversity programs that encourage relationships with minority- and women-owned business enterprises (MWBES).¹⁶⁷ In addition, AT&T and Verizon are members of the Billion Dollar Roundtable, created to recognize corporations that have spent

http://ndn.org/sites/default/files/blog_files/The%20Employment%20Effects%20of%20Advances%20In%20Internet%20and%20Wireless%20Technology_1.pdf (last visited July 8, 2013).

¹⁶⁵ See CTIA U.S. Wireless Industry Overview (Apr. 25, 2012), *available at* http://files.ctia.org/pdf/042412_-_Wireless_Industry_Overview.pdf (last accessed July 9, 2013), at 6, *citing* Robert Crandall & Hal Singer, “The Economic Impact of Broadband Investment” (March 2010), at 3.

¹⁶⁶ See Dr. Michael Mandel and Judith Scherer, South Mountain Economics, LLC, *The Geography of the App Economy* (2012), *available at* <http://ctia.it/QQVDnJ> (last accessed July 8, 2013). Dr. Mandel released updated figures on July 8, 2013, to report that there are currently 752,000 app economy jobs in the U.S., up 40 percent from 2012. See Michael Mandel, “752,000 App Economy Jobs on the 5th Anniversary of the App Store,” Progressive Policy Institute Blog (July 8, 2013), *available at* <http://www.progressivepolicy.org/2013/07/752000-app-economy-jobs-on-the-5th-anniversary-of-the-app-store/> (last accessed July 25, 2013).

¹⁶⁷ See AT&T Global Supplier Diversity, <http://www.att.com/gen/corporate-citizenship?pid=17724> (last accessed July 8, 2013); Sprint Supplier Diversity, <http://www.sprint.com/companyinfo/scm/supplierdiversity/index.html?ECID=vanity:supplierdiversity> (last accessed July 8, 2013); Verizon Supplier Diversity, http://www22.verizon.com/about/supplier_diversity/ (last accessed July 8, 2013); Working with T-Mobile, http://www.t-mobile.com/Company/Working.aspx?tp=Abt_Tab_Bidding (last accessed July 8, 2013).

at least \$1 billion with minority- and women-owned suppliers.¹⁶⁸ Recognizing the value provided by establishing diverse business relationships, many regional providers and MVNOs also have supplier diversity programs.¹⁶⁹ In addition, all of the major carriers are publicly traded companies with no barriers to investment, providing additional opportunities for all Americans to benefit from competitive growth in the mobile wireless market.

MVNOs are also offering new opportunities for small businesses in the mobile wireless marketplace. As one example, in 2012 Sprint launched a single source enablement platform that lowered the barriers to entry to become an MVNO.¹⁷⁰ Since introducing this program, the carrier has signed up more than 200 wholesale customers.¹⁷¹ As discussed above, the other major carriers also encourage MVNOs on their networks, allowing small companies without the capital to invest in building out network infrastructure to establish themselves as regional or even national mobile wireless providers.

¹⁶⁸ See Billion Dollar Roundtable, http://www.billiondollarroundtable.org/index.php?option=com_content&view=article&id=110&Itemid=122 (last accessed July 8, 2013).

¹⁶⁹ See, e.g., U.S. Cellular Supplier Diversity, <http://www.uscellular.com/about/suppliers/diversity.html> (last accessed July 8, 2013); Cricket Supplier Diversity Program, <http://www.mycricket.com/become-a-supplier/supplier-diversity> (last accessed July 8, 2013).

¹⁷⁰ See Sprint Single Source Enablement Offers Turnkey Solution for Companies Wanting to Enter the Wireless Industry,” Sprint Newsroom (July 17, 2012), *available at* <http://newsroom.sprint.com/news-releases/sprint-single-source-enablement-offers-turnkey-solution-for-companies-wanting-to-enter-the-wireless-industry.htm> (last accessed July 8, 2013).

¹⁷¹ See Sarah Reedy, “Sprint Builds an MVNO Factory,” LightReading.com (July 17, 2012), *available at* <http://www.lightreading.com/sprint-builds-an-mvno-factory/240138583> (last accessed July 8, 2013).

B. Wireless service providers are competing to address the needs of diverse populations.

Minority buying power is too great to be ignored. The buying power of African-Americans is estimated to reach \$1.1 trillion by 2015.¹⁷² In 2012, the buying power of Hispanics in the U.S. reached \$1.2 trillion,¹⁷³ and Asian-Americans commanded \$718 billion in buying power.¹⁷⁴ In today's wireless market, providers must compete to respond to the needs of their diverse customers. According to a recent study by the Pew Internet & American Life Project, smartphone penetration by Hispanics is at 60 percent, African Americans at 64 percent, and whites at 53 percent.¹⁷⁵ Minority groups are heavy users of mobile broadband, being more likely than whites to utilize emerging broadband-enabled devices to send messages, access the Internet, download an application or engage in online banking.¹⁷⁶ Over half of African-American mobile

¹⁷² See C. Daniel Baker, "African-American's Buying Power Projected to be \$1.1 Trillion by 2015," *Black Enterprise* (July 9, 2013), *available at* <http://www.blackenterprise.com/small-business/african-american-buying-power-projected-trillions/> (last accessed July 9, 2013).

¹⁷³ See Matt Waldman, "Hispanic Consumer Market in the U.S. Is Larger Than the Economies of All But 13 Countries in the World," Press Release, UGA Selig Center Multicultural Economy Study, *available at* <http://www.terry.uga.edu/news/releases/hispanic-consumer-market-in-the-u.s.-is-larger-than-the-entire-economies-of> (last accessed July 9, 2013).

¹⁷⁴ See "Asian-American Consumer Base: Has Tremendous Buying Power, Still Growing," Nielsen (Nov. 16, 2012), *available at* <http://www.nielsen.com/us/en/newswire/2012/asian-american-consumers-base-has-tremendous-buying-power-still-growing.html> (last accessed July 10, 2013).

¹⁷⁵ See Aaron Smith, "Smartphone Ownership 2013," Pew Internet & American Life Project (June 5, 2013), *available at* <http://pewinternet.org/Reports/2013/Smartphone-Ownership-2013/Findings.aspx> (last accessed July 8, 2013). Note that these numbers represent an increase from a 2012 study from Nielsen, which found that 57 percent of Hispanics, 54 percent of African Americans and 44 percent of whites owned a cell phone. See "America's New Mobile Majority: A Look at Smartphone Owners in the U.S.," Nielsen Newswire (May 7, 2012), *available at* <http://www.nielsen.com/us/en/newswire/2012/who-owns-smartphones-in-the-us.html> (last accessed July 8, 2013) ("America's New Mobile Majority").

¹⁷⁶ See "Digital Differences," Pew Internet & American Life Project (Apr. 13, 2012), *available at* <http://www.pewinternet.org/Reports/2012/Digital-differences/Main-Report/The-power-of-mobile.aspx> (last accessed July 9, 2013); *see also* Aaron Smith, "17% of Cell Phone Owners Do Most of Their Online Browsing on Their Phone, Rather than a Computer or Other Device," Pew Internet & American Life Project (June 16, 2012), at 2, *available at* http://www.pewinternet.org/~media/Files/Reports/2012/PIP_Cell_Phone_Internet_Access.pdf (last accessed July 8, 2013) ("17% Cell Phone Owners Do Most of Their Online Browsing on Their Phone"); "Consumers and Mobile Financial Services 2013," Board of Governors of the Federal Reserve System

Internet users do most of their online browsing on their phone, which is double the amount of whites who use their smartphone in this way.¹⁷⁷ In addition, women are adopting smartphones at a higher rate than men, and nearly all women mobile device users take advantage of their phone by using SMS, while more than 75 percent send and receive photographs from friends and family.¹⁷⁸

Mobile providers are aware of the opportunities to increase their consumer base, and many MVNOs have found a niche market by looking to serve specific affinity groups. For example, Shaka Mobile describes itself as the first cell phone company focused on the needs of the African immigrant community in the U.S.¹⁷⁹ There are MVNOs aimed at Japanese visitors to the U.S., such as KDDI Mobile¹⁸⁰ and Docomo USA Wireless,¹⁸¹ and at Hispanics, including Viva Movil,¹⁸² Mi Gente Mobile,¹⁸³ and Telcel America.¹⁸⁴ The MVNO Red Pocket Mobile

(March 2013), at 10, *available at* <http://www.federalreserve.gov/econresdata/consumers-and-mobile-financial-services-report-201303.pdf> (last accessed July 8, 2013) (finding that Hispanic users showed a disproportionately high rate of 17 percent for adoption of mobile banking services, relative to 13 percent of all mobile phone users).

¹⁷⁷ See Smith, “17% of Cell Phone Owners Do Most of Their Online Browsing on Their Phone,” at 2.

¹⁷⁸ See “America’s New Mobile Majority,” Nielsen Newswire; *see also* “10 Hot Consumer Trends 2013,” Ericsson ConsumerLab (Dec. 13, 2012), at 7, *available at* <http://www.ericsson.com/res/docs/2012/consumerlab/10-hot-consumer-trends-2013.pdf> (last accessed July 8, 2013) (finding that 97 percent of female smartphone owners use SMS, 77 percent send and receive photographs, and 59 percent use social networking); Luke Johnson, “Women Not Men Helping Drive Smartphone Adoption Says Report,” TrustedReviews.com (Dec. 27, 2012), *available at* <http://www.trustedreviews.com/news/women-not-men-helping-drive-smartphone-adoption-says-report> (last accessed July 8, 2013) (noting that more women than men are purchasing smartphones such as the iPhone 5, Samsung Galaxy S3 and Google Nexus 4).

¹⁷⁹ Shaka Mobile, <http://www.shakamobile.com/index.php/aboutus/overview> (last accessed July 5, 2013).

¹⁸⁰ KDDI Mobile, <http://www.kddimobile.com/en/> (last accessed July 5, 2013).

¹⁸¹ Docomo USA Wireless, <http://www.docomo-usa.com/en/index.html> (last accessed July 5, 2013).

¹⁸² Simone Weichselbaum, “Jennifer Lopez and Verizon open Viva Movil Boutique Shop near Barclays Center,” NY Daily News (June 12, 2013), *available at* <http://www.nydailynews.com/new-york/brooklyn/j-lo-open-viva-movil-shop-barclays-center-article-1.1370972> (last accessed July 25, 2013).

¹⁸³ Mi Gente Mobile, <http://migentemobile.com/> (last accessed July 5, 2013).

¹⁸⁴ Telcel America, <http://www.telcelamerica.com/> (last accessed July 5, 2013).

advertises customer support in English, Spanish, Chinese and Filipino,¹⁸⁵ while China Telecom has announced plans to launch an MVNO in the U.S. aimed at Chinese Americans and Chinese-speaking travelers between the two countries.¹⁸⁶

V. COMMENTERS UNANIMOUSLY AGREE THAT THE COMMISSION MUST PROVIDE ADDITIONAL SPECTRUM FOR MOBILE BROADBAND TO SUPPORT CONTINUED WIRELESS COMPETITION AND GROWTH

The Commission must work to make additional spectrum available for mobile broadband use. Otherwise, the economic growth spurred by a competitive and growing mobile broadband economy and continued investments in wireless infrastructure will be stifled.

Commenters in this proceeding have urged the Commission to make more spectrum available for commercial mobile broadband services.¹⁸⁷ For example, T-Mobile explains that two phenomena drive the demand for more spectrum: (1) increased penetration of mobile wireless communications “as consumers cut the cord and use wireless-only platforms;” and (2) migration of consumers from using primarily “voice and simple data communications to bandwidth intensive applications such as video downloads.”¹⁸⁸ Mobile Future points out that enormous economic benefits will accrue from freeing up additional spectrum for licensed mobile broadband use, noting that that “[t]he wireless industry is directly or indirectly responsible for nearly 4 million jobs” that pay higher than average wages, while the industry overall contributes

¹⁸⁵ Red Pocket Mobile, <http://goredpocket.com/> (last accessed July 5, 2013).

¹⁸⁶ See Phil Goldstein, “China Telecom to Launch U.S. MVNO in 2012,” *Fierce Wireless* (Nov. 9, 2011), *available at* <http://www.fiercewireless.com/story/china-telecom-launch-us-mvno-2012/2011-11-09> (last accessed July 5, 2013).

¹⁸⁷ See e.g., AT&T Comments at 20; T-Mobile Comments at 3; Sprint Comments at 27; Verizon Comments at 56-57; Mobile Future Comments at 8-9; TIA Comments at 8; CCA Comments at 10-14; WGAW Comments at 5; RTG Comments at 3.

¹⁸⁸ Comments of T-Mobile at 4-5, citing “Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update 2012-2017,” Cisco (Feb. 2013) at 10, *available at* http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf (last accessed June 26, 2013).

\$150 billion to the U.S. GDP.¹⁸⁹ CTIA continues to encourage the Commission to redouble its efforts to bring both low-band and high-band spectrum to market.¹⁹⁰ Making large blocks of both low- and high-band spectrum available will enable carriers to integrate both, to the extent that they desire, into their networks.

The comments of Information Age Economics (“IAE”) on spectrum efficiency in the U.S. suffer from a number of flaws.¹⁹¹ First and foremost, IAE fundamentally misinterprets and misconstrues the objective of the CTIA “flag chart,” which shows the number of wireless subscribers, minutes of use, allocated and pipeline commercial wireless spectrum, and subscribers per MHz across the U.S. and nine of its trading partners.¹⁹² IAE argues that the flag chart is misleading,¹⁹³ but in doing so fails to recognize the chart for what it is - an illustration of the globally acknowledged principle that more wireless users, generating more traffic, require more resources, including more spectrum. Over the past twenty years, this principle has driven the allocation of more spectrum worldwide to mobile services, and played a key role in the conclusion of the ITU-R Report M.2078 that by the year 2020 mobile services around the world

¹⁸⁹ Mobile Future Comments at 8, citing “The Wireless Industry: The Essential Engine of US Economic Growth,” Recon Analytics (Apr. 30, 2012) at 1, 22, *available at* <http://reconanalytics.com/wp-content/uploads/2012/04/Wireless-The-Ubiquitous-Engine-by-Recon-Analytics-1.pdf> (last accessed June 26, 2013).

¹⁹⁰ *See, e.g.*, CTIA Comments at 63-64; T-Mobile Comments at 19-20.

¹⁹¹ *See* Reply Comments of Information Age Economics, WT Docket No. 13-135 (filed July 1, 2013) (“IAE Reply Comments”); *see also* Martyn Roetter and Alan Pearce, “The False Premise of Wireless/Wireline Intermodal Competition,” WT Docket No. 13-135 (filed July 1, 2013).

¹⁹² *See* CTIA Comments at 67.

¹⁹³ *See* IAE Reply comments at 4.

will require 1,280 MHz for low market, rural areas, and 1,720 MHz for high market, urban areas.¹⁹⁴

Although the flag chart does not illustrate the universally recognized need for the construction of more sites to meet growing demand, action on these fronts is ongoing, as discussed above. Such action includes tens of thousands of new cell site deployments in the U.S. over the past few years, and the investment of tens of billions of dollars to deploy more advanced technologies. While IAE argues that the flag chart approach would demonstrate an even more efficient use of spectrum by other heavily populated countries, such as China or India, this argument misses the actual conclusion that more spectrum is also needed in those countries to meet the growing demand for mobile services.

As previously noted, the White House has repeatedly recognized the need to free up additional spectrum for mobile broadband. A 2010 Presidential Memorandum directed that an additional 500 MHz of spectrum should be made available for mobile broadband within ten years.¹⁹⁵ The Memorandum affirmed that “America’s future competitiveness and global technology leadership depend, in part, upon the availability of additional spectrum.”¹⁹⁶ In 2012, the White House Council of Economic Advisors echoed that sentiment, recognizing that “the wireless industry is an important source of investment and employment in the U.S. economy,” and new spectrum allocation “is likely to generate substantial economic benefits.”¹⁹⁷ The

¹⁹⁴ See “Estimated Spectrum Bandwidth Requirements for the Future Development of IMT-2000 and IMT-Advanced,” ITU-R Report M.2078 (2006), at 1, *available at* http://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-M.2078-2006-PDF-E.pdf (last accessed July 8, 2013).

¹⁹⁵ See “*Unleashing the Wireless Broadband Revolution.*”

¹⁹⁶ *Id.*

¹⁹⁷ “The Economic Benefits of New Spectrum for Wireless Broadband,” Executive Office of the President, Council of Economic Advisors (Feb. 2012), at 16, *available at* http://www.whitehouse.gov/sites/default/files/cea_spectrum_report_2-21-2012.pdf (last accessed June 26, 2013).

Commission should heed the requests of commenters in this docket, as well as the directives of the White House, and proceed to make available additional spectrum for mobile wireless broadband use as swiftly as possible.

VI. CONCLUSION

Competition is flourishing throughout today's wireless ecosystem. The wireless marketplace includes many regional and MVNO entrants that offer innovative services to nearly all of the U.S. population. Smaller carriers have attracted significant new capital investment and are introducing disruptive pricing plans as they accelerate their investment in 4G LTE networks. Steady improvements in networks and infrastructure have improved the offerings of all mobile wireless providers, while consumers have benefited from the increased availability of cutting-edge devices. Heavy investment in the mobile wireless market is another indication of a thriving and competitive industry, in which providers compete to roll out new service plans and offerings to attract consumers faced with unprecedented choice. Mobile broadband is an economic driver for all communities in the U.S., including women and minorities, and the Commission should take additional steps to ensure that this remains the case.

In order to stay on top, competitive mobile wireless providers deploy considerable resources in their networks, and market pressures are sufficient to ensure that spectrum is quickly and efficiently deployed. As a result, consumer satisfaction with wireless services is at a record high and climbing, although the Commission should take action to address the imposition of discriminatory taxes and fees on consumer wireless bills. Even more critically, the Commission should act to free up as much available spectrum, as soon as possible, to support continued wireless competition and growth, and ensure continued consumer satisfaction.

Respectfully submitted,

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July 25, 2013

APPENDIX A

AD AGE DATACENTER

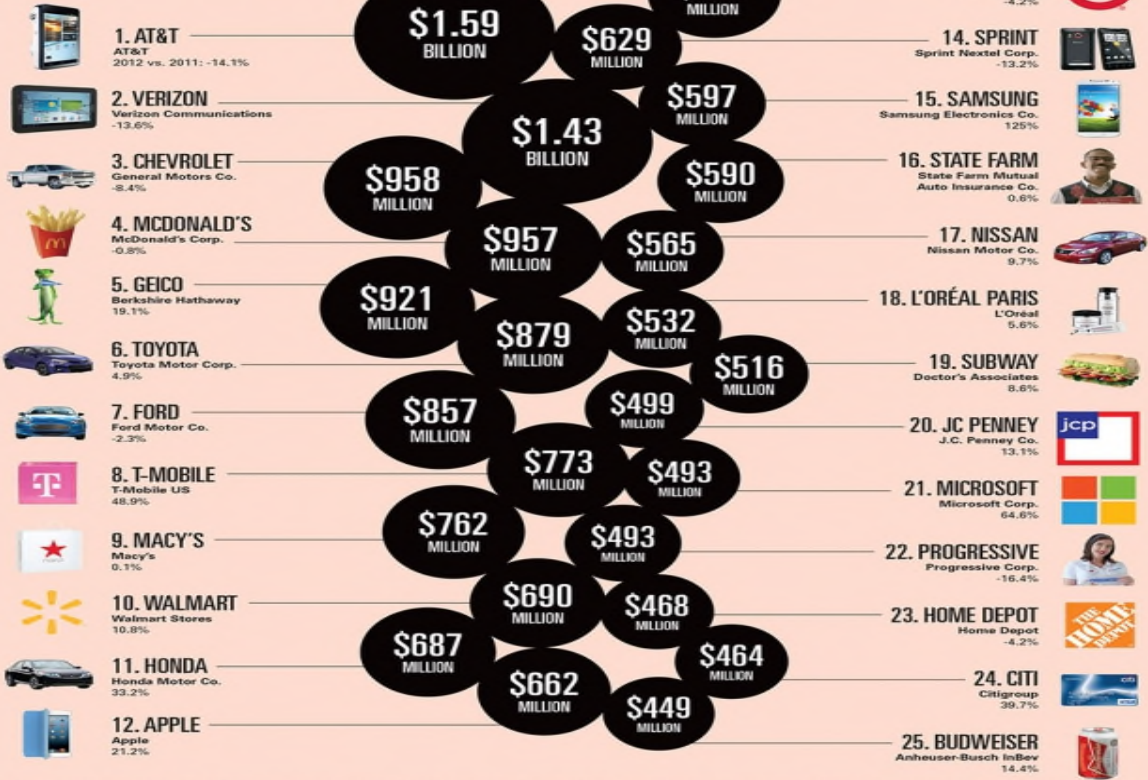
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ADVERTISING AGE

JULY 8, 2013 • 15

APPENDIX B

List of Available Unlocked Phones¹⁹⁸

Phone Name

- 1 Acer Liquid Z110
- 2 Apple iPhone 3GS
- 3 Apple iPhone 4
- 4 Apple iPhone 4S
- 5 Apple iPhone 5
- 6 Blackberry Bold 9000
- 7 BlackBerry Bold 9650
- 8 BlackBerry Bold 9700 GSM Cell Phone
- 9 BlackBerry Bold 9790
- 10 BlackBerry Bold 9930
- 11 BlackBerry Bold 9900
- 12 Blackberry Curve 8310
- 13 BlackBerry Curve 8520
- 14 Blackberry Curve 8900 Javelin
- 15 BlackBerry Curve 9300
- 16 BlackBerry Curve 9315
- 17 Blackberry Curve 9320
- 18 BlackBerry Curve 9360
- 19 BlackBerry Pearl 8110
- 20 BlackBerry Pearl Flip
- 21 BlackBerry Q10 4G
- 22 Blackberry Storm 2 9550 GSM
- 23 BlackBerry Torch 2 9810
- 24 BlackBerry Torch 9800 GSM Cell Phone
- 25 BlackBerry Z10
- 26 BlackBerry Storm 9530
- 27 BlackBerry Torch 9860
- 28 BlackBerry Tour 9630
- 29 Blu Amour 4.0 D290A
- 30 Blu Aria T174
- 31 Blu Dash 3.2 D150a
- 32 Blu Dash 3.5 D170A

¹⁹⁸ “U.S. Offers a Variety of Unlocked Devices: Your Choice,” CTIA – The Wireless Association® (Mar. 4, 2013), *available at* <http://blog.ctia.org/2013/03/04/unlocked-devices-2/> (last accessed June 25, 2013). Note: The blog posting from March 2013 listing available unlocked phones has increased from 156 to 242. Source: www.bestbuy.com, www.overstock.com, www.walmart.com, www.amazon.com, and www.ebay.com.

- 33 Blu Dash 4.0 D270A
- 34 Blu Dash D130
- 35 Blu Dash Music D172A
- 36 Blu Deco Mini 3 Q133
- 37 Blu Diva T272T
- 38 Blu Diva X T372T
- 39 Blu Hero Pro Q333w
- 40 Blu Jenny T172
- 41 Blu Life Play L100A
- 42 Blu Quattro 4.5 D440
- 43 Blu Quattro 4.5 HD D450
- 44 Blu Quattro 5.7 HD D460
- 45 Blu Samba JR Q53
- 46 Blu Spark S130T
- 47 Blu Studio 5.0 D530
- 48 Blu Studio 5.3 II
- 49 Blu Studio 5.3 S
- 50 Blu Tank 4.5 W110i
- 51 Blu Tank T190
- 52 Blu Tattoo S Q192
- 53 Blu Vivo 4.3 D910A
- 54 Blu Vivo 4.65 D930A
- 55 Dell Aero
- 56 Dell Venue
- 57 HP Veer 4G P160
- 58 HTC Dash 3G
- 59 HTC Desire A8182
- 60 HTC Explorer A310e
- 61 HTC Freestyle
- 62 HTC HD7S T9295
- 63 HTC Inspire
- 64 HTC myTouch
- 65 HTC One
- 66 HTC One V
- 67 HTC One X S720e
- 68 HTC Status A810A
- 69 HTC Titan II
- 70 HTC Touch Viva
- 71 HTC Vivid Quad-band GSM
- 72 HTC Wildfire
- 73 HTC Windows Phone 8X
- 74 HTC X8
- 75 Huawei Ascend Y300

76	Huawei G3621L
77	Huawei G6151
78	Huawei G6608
79	Huawei Ideos U8150-B
80	Huawei Impulse 4G U8800
81	Huawei U2800
82	Huawei Vision
83	Just5 J509
84	LG Cookie Plus GS500
85	LG Encore GT550
86	LG GT550
87	LG GU295
88	LG KC780
89	LG Neon GT365
90	LG Neon II GW370
91	LG Optimus GT540
92	LG Optimus L3 E400
93	LG Optimus Me P350
94	LG Optimus Net P692
95	LG Optimus One P500
96	LG Optimus True P936
97	LG Phoenix P505
98	LG Prime GS390
99	LG Quantum C900
100	LG Rumour Plus
101	LG Thrill 4G P925
102	LG Thrive P506
103	LG Vu Plus GR700
104	LG Xenon GR500
105	Motorola Atrix 2 MB865
106	Motorola Atrix MB860
107	Motorola Backflip MB300
108	Motorola Backflip MB520
109	Motorola Charm MB502
110	Motorola Cliq MB501
111	Motorola Defy MB526
112	Motorola Defy Mini XT320
113	Motorola DROID Pro XT610
114	Motorola Droid RAZR XT910
115	Motorola EX223
116	Motorola Fire XT532
117	Motorola Flipside MB508
118	Motorola Motokey EX117

- 119 Motorola Motokey Social EX225
- 120 Motorola Motokey Social EX226
- 121 Motorola MOTOLUXE XT615
- 122 Motorola RAZR I XT890
- 123 Motorola Spice XT316
- 124 Motorola V237
- 125 NIU Domo 2 N202
- 126 NIU Niutek N108
- 127 NIU Niutek N109
- 128 NIU Tek N 209
- 129 NIU Tek N309
- 130 Nokia 2600
- 131 Nokia 603
- 132 Nokia Asha 300
- 133 Nokia Asha 303
- 134 Nokia C2-01
- 135 Nokia C5-03
- 136 Nokia E71
- 137 Nokia Lumia 800
- 138 Nokia Lumia 810
- 139 Nokia Lumia 900 16GB GSM
- 140 Nokia Lumia 920
- 141 Nokia N97
- 142 Nokia XpressMusic 5800
- 143 Nokia C201 Mobile Phone
- 144 Nokia N73
- 145 Palm Pixi Plus
- 146 Palm Pre Plus
- 147 Pantech Impact P7000
- 148 Pantech Laser P9050
- 149 Pantech Link P7040
- 150 Pantech Pocket P9060
- 151 Pantech Pursuit P9020
- 152 Samsung ATIV S i8750
- 153 Samsung C3520
- 154 Samsung Ch@t 222 E2222
- 155 Samsung Ch@t 335 S3350
- 156 Samsung Ch@t E2220
- 157 Samsung Champ DUOS C3312 GSM Smartphone
- 158 Samsung Eternity II A597 GSM
- 159 Samsung Evergreen A667 GSM
- 160 Samsung Flight A797
- 161 Samsung Flight II A927

162 Samsung Focus 1917
163 Samsung Focus 2 I667
164 Samsung Galaxy 3 I5800GSM
165 Samsung Galaxy 5 I5500/I5503 GSM
166 Samsung Galaxy Ace 2 I8160 GSM
167 Samsung Galaxy Ace Beam I8530 GSM Phone
168 Samsung Galaxy Ace Duos S6802
169 Samsung Galaxy Ace Plus S7500
170 Samsung Galaxy Ace S5830
171 Samsung Galaxy Fit S5670
172 Samsung Galaxy Grand i9802
173 Samsung Galaxy Mega 5.8 i9150
174 Samsung Galaxy Mega 6.3 i9200
175 Samsung Galaxy Mini S5570 GSM
176 Samsung Galaxy Music Duos S6012
177 Samsung Galaxy Nexus i9250
178 Samsung Galaxy Note i717
179 Samsung Galaxy Note II N7100
180 Samsung Galaxy Note N7000
181 Samsung Galaxy Pocket S5300 GSM
182 Samsung Galaxy Pro B7510
183 Samsung Galaxy S 4 i9500
184 Samsung Galaxy S Captivate i897
185 Samsung Galaxy S Duos S7562
186 Samsung Galaxy S II I9100 16 GB
187 Samsung Galaxy S II Skyrocket i727
188 Samsung Galaxy S III i747 4G
189 Samsung Galaxy S III I8190 Mini 8GB GSM
190 Samsung Galaxy S III I9300 4G
191 Samsung Galaxy Xcover S5690
192 Samsung Galaxy Y DUOS S6102 GSM
193 Samsung Galaxy Y S5360 GSM
194 Samsung Infuse 4G
195 Samsung Jitterbug Plus R220
196 Samsung Keystone 2 E1205L GSM Smartphone
197 Samsung Rugby III
198 Samsung SGH-i777 Attain Galaxy S II
199 Samsung Smiley T359 GSM
200 Samsung Solstice 2 A817
201 Samsung Solstice A887
202 Samsung Star II S5260
203 Samsung Star S5230
204 Samsung Strive A687

205 Samsung Sunburst a697
206 Samsung T356
207 Samsung T559
208 Samsung Wave Y S5380
209 Samsung Xplorer B2100
210 Samsung A177
211 Samsung Ch@t 220
212 Samsung Ch@t 322
213 Samsung Doubletime I857
214 Samsung E2350
215 Samsung Xcover B2710
216 Sharp ADS1
217 Sharp FX
218 Sharp FX Plus
219 Sharp FX STX-2
220 Sharp Sidekick LX 2009
221 Social FB101
222 Sony W518a
223 Sony Xperia Advance
224 Sony Xperia E C1504
225 Sony Xperia Go ST27A
226 Sony XPERIA ion
227 Sony Xperia J
228 Sony Xperia L C2104
229 Sony Xperia miro
230 Sony Xperia P LT22i Smartphone
231 Sony Xperia Play 4G R800a Cell Phone
232 Sony Xperia S
233 Sony Xperia SP C5306
234 Sony Xperia T
235 Sony Xperia Tipo ST21A
236 Sony Xperia TL LT30a
237 Sony Xperia TX
238 Sony Xperia U ST25a
239 Sony Xperia Z C6603
240 Sony Xperia ZL C6502
241 Sony Xperia ZL C6506
242 ZTE Avail